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SEE PAGE 108



Digital Photography

Volume 46

ULTIMATE GUIDE

Outdoor Masterclass

CORE SKILLS YOU'LL NEED TO MASTER ANY LANDSCAPE;
PLUS: FILTERS, FOCUSING, EXPOSURE AND MORE *p46*

PRO TIPS!

- ULTRA-WIDE LANDSCAPES
- WILDFLOWER SILHOUETTES
- CREATING REALISTIC SHADOWS

A CUT ABOVE

Long exposures and lightning strikes with Rodney Trenchard *p18*

PHOTO FAIRY TALE

Inside the mind of creative genius Benjamin Von Wong *p40*



SAMSUNG NX500!

THE IDEAL COMPANION FOR YOUR DSLR? *p90*



PLUS

Family Fun

10 BRILLIANT WAYS YOU CAN CAPTURE FAMILY PORTRAITS *p79*

Time Stacking

THE SECRETS TO STUNNING TIME LAPSE LANDSCAPES *p70*

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WE'RE DISCUSSING LANDSCAPES in this issue – specifically, the whys, wheres and what-fors. New South Wales photographer Rodney Trenchard starts us off, not just with the tremendous captures above and on the cover, but with this telling quote from his interview beginning on page 18: "I love to be able to capture a moment that will never be repeated," he says. "After you've spent months planning, then you've hiked through the dark for three hours to be standing on the edge of a cliff or at the base of a mountain just as the sun rises above the horizon and fills the sky with colours... that's what it's all about and it's these moments that keep me motivated."

So Rodney has touched on something here that unites all the good landscape photographers I've ever met: at first glance they appear to be basically masochistic loners with a borderline death wish. But in a good way. "As patient and resolute as a starving, exhausted, waterlogged landscape photographer with leg cramps" is not a popular expression, but should be. After a sturdy tripod, the number one essential tool in a landscape photographer's kit bag is patience. For the rest of those tools, refer to Part Two of our Ultimate Guide to Landscape Photography (page 46).

Elsewhere in the mag, learn the pathways to commercial success according to Kentucky shooter Clay Cook (page 28); be dazzled by the surreal imagery of Canadian internet sensation Benjamin Von Wong (page 40); and check out the final instalment of our Family Album series with Ten Top Tips from leading professionals on how to capture a family's best side. Enjoy!

Greg Barton **Editor**

ON THIS ISSUE'S COVER...



"Blue Monday" is a stunning capture by NSW shooter Rodney Trenchard of the glowing tip of Mt Cook on New Zealand's South Island. "This kind of mixed tone lighting is what I really search for when trying to find a compelling image," says Rodney. See more on **pg 18.**

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Contents

ISSUE 46

3 EDITOR'S WELCOME

6 PORTFOLIO

Kicking things off with some breathtaking shots that are sure to spark your creativity.

18 A CUT ABOVE

Rodney Trenchard's stunning lightning strikes and long exposures.

28 JUST SHOOT

Editorial and commercial photographer Clay Cook reveals the secret to his success.

40 THE STORYTELLER

Jordan Butters talks to online sensation Ben Von Wong about shooting inside a 240-year-old monastic library.

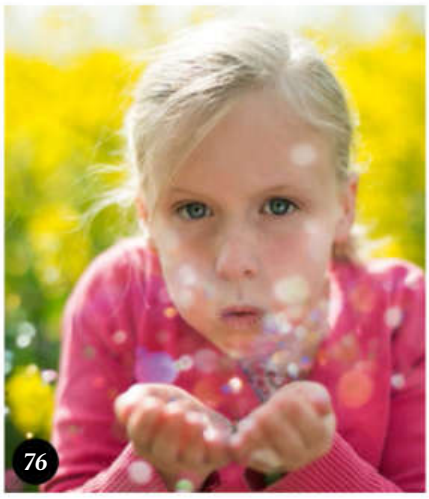
46 ULTIMATE PHOTO GUIDE

Part Two of your essential guide to shooting landscapes.

108 YOUR GALLERY

All the latest works of art from the *Digital Photography* community – with prizes to be won!


18


76


79

Photo technique & advice

34 SHADOW PLAY

Canberra's Shanx Bose's favourite go-to techniques for adding realistic shadows to composite images.

60-78 PHOTO SKILLS

Shooting ultra-wide open landscapes; capturing wildflower silhouettes; Jordan Butters reveals the techniques and tips required to capture and edit a creative time-stack image; adding sparkle to your shots via glitter portraits.

79 FAMILY ALBUM: TEN TOP TIPS

We round off our Family Album series with some invaluable advice from leading lifestyle professionals.


46


40





90

Gear: Tested & rated

88 GEAR NEWS
The latest product and gear news, hot off the press.

90 SAMSUNG NX500
Is this lightweight CSC a useful addition to your kit?

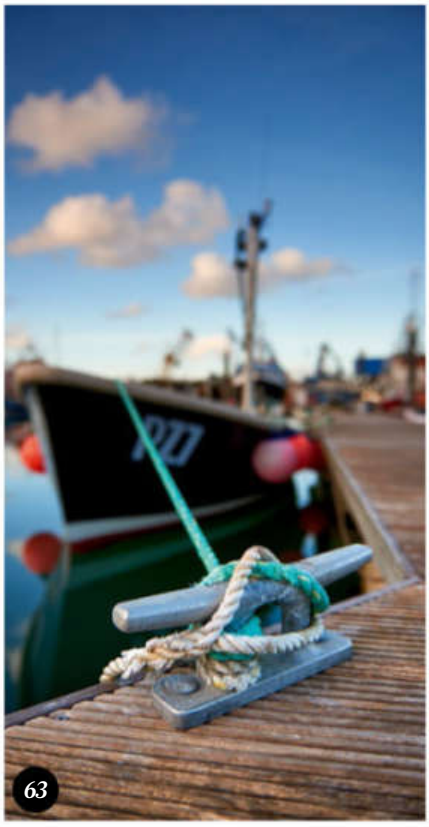
92 PENTAX K-S2
Find out if it's a bargain buy for first-time users.

94 LYTRO ILLUM
A new dimension in digital photography.

96 CANON 11-24MM ZOOM
Canon's incredible ultra-wide lens.

100 PREMIUM FLASHGUNS
Seven of the best priced over $400.

107 MINI TESTS
Joby UltraFit Hand Strap and cute Shutter Huggers.



63

CONTRIBUTING THIS ISSUE...



Rodney Trenchard **LANDSCAPES**
Rodney the unassuming butcher swaps cleaver for camera to produce stunning long-exposure landscapes from his home town on the NSW Mid North Coast. *reddoorimaging.com.au*



Shanx Bose **PHOTOSHOP**
Canberra's Shanx Bose (Max Photography) is one heck of a shooter... but that's nothing compared to his Photoshops-chops. *facebook.com/maxphotography.au*



Clay Cook **PORTRAITS**
A rising star in the world of editorial and commercial photography, in this issue Clay shares his techniques and business advice. *claycookphotography.com*



Benjamin Von Wong **PORTRAITS**
Conceptual portrait photographer Von Wong is an online celebrity and master of viral images. Read about his latest project on page 40. *vonwong.com*



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Jordan Butters **LANDSCAPES & REVIEWS**
With a finger always on the pulse of photography, Jordan turns his hand to most things; he's a senior features writer and talented pro photographer.



Portfolio

Bled I

by Roberto Pavic

500px.com/roblfc1892

"This is Assumption of Mary Pilgrimage Church, on Lake Bled in Slovenia. On the day the sunrise was awful – it was raining and the sky had no definition. Suddenly a mist descended and I saw breaks in the clouds, but it was still raining, spoiling the reflection in the water. I used a ten-stop ND filter to give a long exposure, smoothing out the ripples in the water."

Canon EOS 5D Mk II with EF 24-105mm f/4L IS USM lens. Exposure: 90 seconds at f/10 (ISO 100).







Treelife
by Tim Poulton

www.oneofakind.photography

(Top) "I have a bond with the famous willow tree at Lake Wanaka, New Zealand, having photographed her zen-like beauty over the last five years. It's one of those locations that even in the pouring rain would produce stunning results. This is a six-frame stitched panoramic."

Nikon D800 with a Schneider PC TS Super-Angulon 50mm f/2.8 lens. Exposure: One second at f/16 (ISO 100).

Blaze Away
by Tim Poulton

(Above) "This is an eight-frame panoramic image. On this particular morning I was shooting alongside friends whom happen to be some of Australia's best landscape photographers. We witnessed one of the best sunrises I've ever seen at Mt Cook's Hooker Valley in New Zealand."

Nikon D800 with a Schneider PC TS Super-Angulon 50mm f/2.8 lens. Exposure: 0.6 seconds at f/16 (ISO 100).

Perpetual Light
by Tim Poulton

(Right centre) "What I love about one of the most photographed churches in the world at Lake Tekapo is that at sunrise, for a brief moment, the golden rays of the sun hit the stained glass windows giving this divine glow. Six vertical frames were stitched together to create this panoramic image."

Nikon D800 with a Schneider PC TS Super-Angulon 50mm f/2.8 lens. Exposure: 0.6 seconds at f/11 (ISO 100).

Illuminati
by Tim Poulton

(Right) "After driving around the Sibbald Range in New Zealand looking for a suitable sunset location I finally spat my dummy out and gave up. Heading back to the car defeated, a look over my shoulder revealed this composition and great leading line. Again, six vertical frames make up this image."

Nikon D800 with a Schneider PC TS Super-Angulon 50mm f/2.8 lens. Exposure: 1/125sec at f/22 (ISO 100).

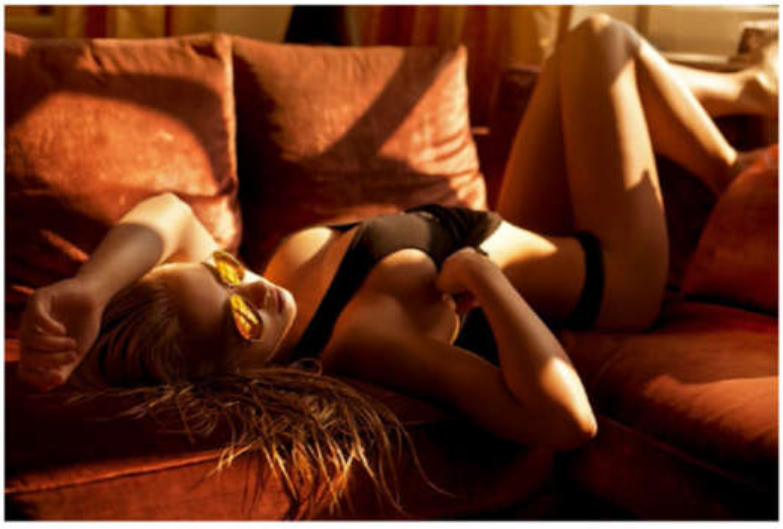












Low-Light Love by Wojtek Pruchnicki

500px.com/WojtekPruchnicki

(Above) "A nice, stylish couch always makes for a great prop, so when I saw this one I knew I had to use it. Give me a couch like this, with only available [back]light from the windows and an attractive model and I could take photos for days! The soft effect in the top left corner here is created by covering part of the lens with cling film."

Nikon D600 with AF-S 50mm f/1.4G lens. Exposure: 1/100sec at f/3.5 (ISO 200).

Wildcat by Wojtek Pruchnicki

(Centre left) "This shot is taken through a large window – I loved the soft reflections falling out of focus as they add depth and interest. I had to stand outside on the porch and could not give any verbal instructions as the model couldn't hear me through the glass. Luckily, a thumbs up or down from me was all she needed to nail the pose."

Nikon D600 with AF-S 50mm f/1.4G lens. Exposure: 1/250sec at f/2.8 (ISO 100).

Golden Brown by Wojtek Pruchnicki

(Bottom left) "This is one of my favourites. The model is actually my girlfriend, and she had literally just came out of the shower when I noticed glorious warm light pouring in through the windows. Amusingly, I had to clone out her french bulldog from the lower right corner of the frame – he's a curious little guy!"

Nikon D600 with AF-S 50mm f/1.4G lens. Exposure: 1/2000sec at f/2.8 (ISO 400).

Luzie by Wojtek Pruchnicki

(Right) "This shoot put me to the test in low light – I was new to my camera and didn't want to push the ISO too high. I had my model sit on the floor near a window and used spot metering to meter from the model's skin. Again, I used cling film across the edge of the lens nearest the light to introduce a soft edge and a light leak effect."

Nikon D600 with AF-S 50mm f/1.8G lens. Exposure: 1/40sec at f/2.5 (ISO 500).





Portfolio

Mountain Paradise

by Chris Moore

www.exploringlightphotography.com

"A trip to the Ogilvie Mountains in Canada during autumn presented an incredible carpet of fall colour – a photographer's paradise! Clouds were rolling in late in the day, and I knew we would see a special sunset. Just as the sun dipped behind the hills, a nice glow glanced across the face of Tombstone Mountain."

Nikon D800E with NIKKOR AF-S 14-24mm f/2.8G lens. Exposure: 1/20sec at f/16 (ISO 100).







Insomnia by Viktoria Haack

www.viktoriahaackphotography.ca

(Above) "This is a self-portrait taken almost by accident. I was shooting a sunset when I spotted a small walkway that had become flooded. It felt like the image needed something so I stepped into the frame, shooting a long exposure with a self-timer. The wind was blowing my hair and it was hard to keep still without support."

Nikon D300 with Sigma 10-20mm f/4-5.6 lens. Exposure: Four seconds at f/18 (ISO 200).

Bliss by Viktoria Haack

(Centre left) "I wanted to take advantage of the beautiful hoar frost we'd been experiencing and fortunately I was able to combine this with Stephanie in her wedding dress. It was freezing, but she didn't complain once! We worked fast as the sun was arriving imminently. A reflector was used to help bounce some light into her face."

Nikon D300s with NIKKOR 70-200mm f/2.8G lens. Exposure: 1/1600sec at f/3.2 (ISO 200).

Take a seat by Viktoria Haack

(Bottom left) "I happened upon this chair on a local beach and decided as it was already at this location that it might make for an interesting prop. My model, Krystal, was happy to oblige and we shot near sunset to make the most of soft light. I used a six-stop Neutral Density filter to extend the exposure and smooth out the water."

Nikon D4 with AF-S 17-35mm f/2.8D lens. Exposure: Four seconds at f/16 (ISO 100).

Miranda by Viktoria Haack

(Right) "This shoot was stylized by Rafael; a local seamstress. We wanted to make the most of Miranda's gorgeous hair and try to match clothing and locations to create similar tones. I placed her in a stand of trees, shot wide open to maximise focus on the model and allow the environment to softly fall away around her."

Nikon D4 with AF-S 70-200mm f/2.8G lens. Exposure: 1/800sec at f/2.8 (ISO 400).



Portfolio

The Ghost and the Darkness by Atif Saeed

www.facebook.com/AtifSaeedFineArtPhotography

(Right) "This was the riskiest image I've ever taken, but it was worth it. I was in a safari park in Pakistan when I saw a male lion. I got out of my car and slowly crept towards it. The sound of the shutter attracted the lion's attention – my cue to scarper back into the car!"

Nikon D4 with NIKKOR AF-S 500mm f/4G lens. Exposure: 1/500sec at f/4 (ISO 1000).

In Yellow by Atif Saeed

(Below left) "Just before spring, the mustard field near my house fills my mind with happiness and fun. I saw this bluethroat who appeared to be enjoying the same feeling. I crouched down to fill the background with yellow, allowing some foreground bokeh to creep in."

Nikon D3s with NIKKOR AF-S 300mm f/2.8G lens and 1.7x TC. Exposure: 1/400sec at f/6.3 (ISO 640).

Black Buck by Atif Saeed

(Below right) "The male black buck for me is one of the most beautiful horned species found in the deserts of Pakistan. This was captured during the golden first light at the beautiful Lal Suhanra National Park, Bahawalpur – the gentle backlight highlights the buck's form."

Nikon D800 with AF-S 500mm f/4G lens. Exposure: 1/1600sec at f/4 (ISO 200).

A Perfect Date by Atif Saeed

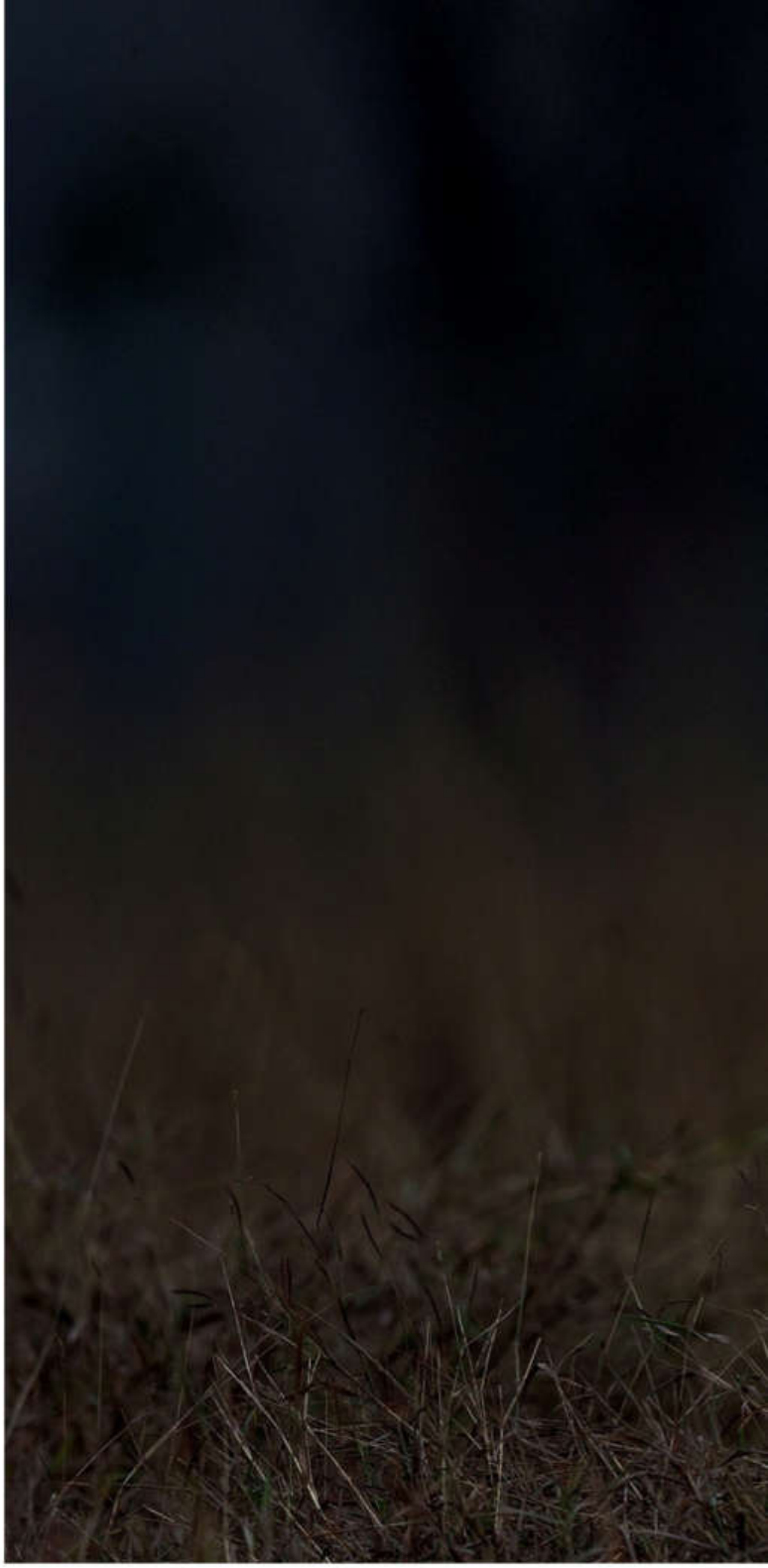
(Bottom centre right) "I had this shot in mind for some time and it took a lot of persistence to finally capture it. After monitoring this small pond for many weeks the conditions were perfect, with a low blood-red sunset and a couple of graceful egrets enjoying each other's company."

Nikon D800 with NIKKOR AF-S 500mm f/4G lens. Exposure: 1/1250sec at f/4 (ISO 500).

Little Owl by Atif Saeed

(Bottom far right) "The Little Owl is a very intelligent bird and this one landed on a branch opposite the tree that was camouflaging me. While it observed its surroundings, I was able to capture this shot using the foreground branches to create a perfect frame."

Nikon D800 with NIKKOR AF-S 500mm f/4G lens. Exposure: 1/640sec at f/4 (ISO 640).















A cut above

Rodney Trenchard wields a butcher's knife by day. But when the apron comes off, he's found time to develop into an award-winning landscape photographer. Here's just a small sample from his stunning portfolio.

Peaking: Shot with a Canon 5DMkII; 30sec; 50mm focal length; ISO 100



Rodney Trenchard



Magic: Canon 5DMkII; 1/100sec; 50mm focal length; ISO 400

I'm 34 and live in the small town of Taree on the NSW Mid North Coast. I'm a butcher by trade, which people who know me through my photography are always surprised by. It would seem that it's a strange combination. I'm a father to two wonderful sons aged three and six and I have a very supportive wife. I'm very lucky that the flexibility of my work and my amazing family allow me to really envelop myself in my photography.

Taree was a great town to grow up in from a landscape photography point of view. Right in the heart of the pristine Manning Valley, and a stone's through from the Great Lakes, there was always something to photograph. We have some of the most beautiful beaches you can imagine. We also have beautiful subtropical rainforests and iconic locations such as Ellenbrough Falls. It's so quiet here in my corner of the world; you can easily spend a day at the beach and not see another person if that is what you desire.

When I'm not behind a camera I spend as much time as I can with my family. We enjoy spending time in the outdoors. We regularly just jump into the 4WD and spend the day showing the kids how lucky we are. The boys are developing a love for the outdoors and they really enjoy our "adventure days", as we like to call them.



Environmental Portrait: Sony ILCE-7R; 1/5sec; ISO 800

Just like Ken

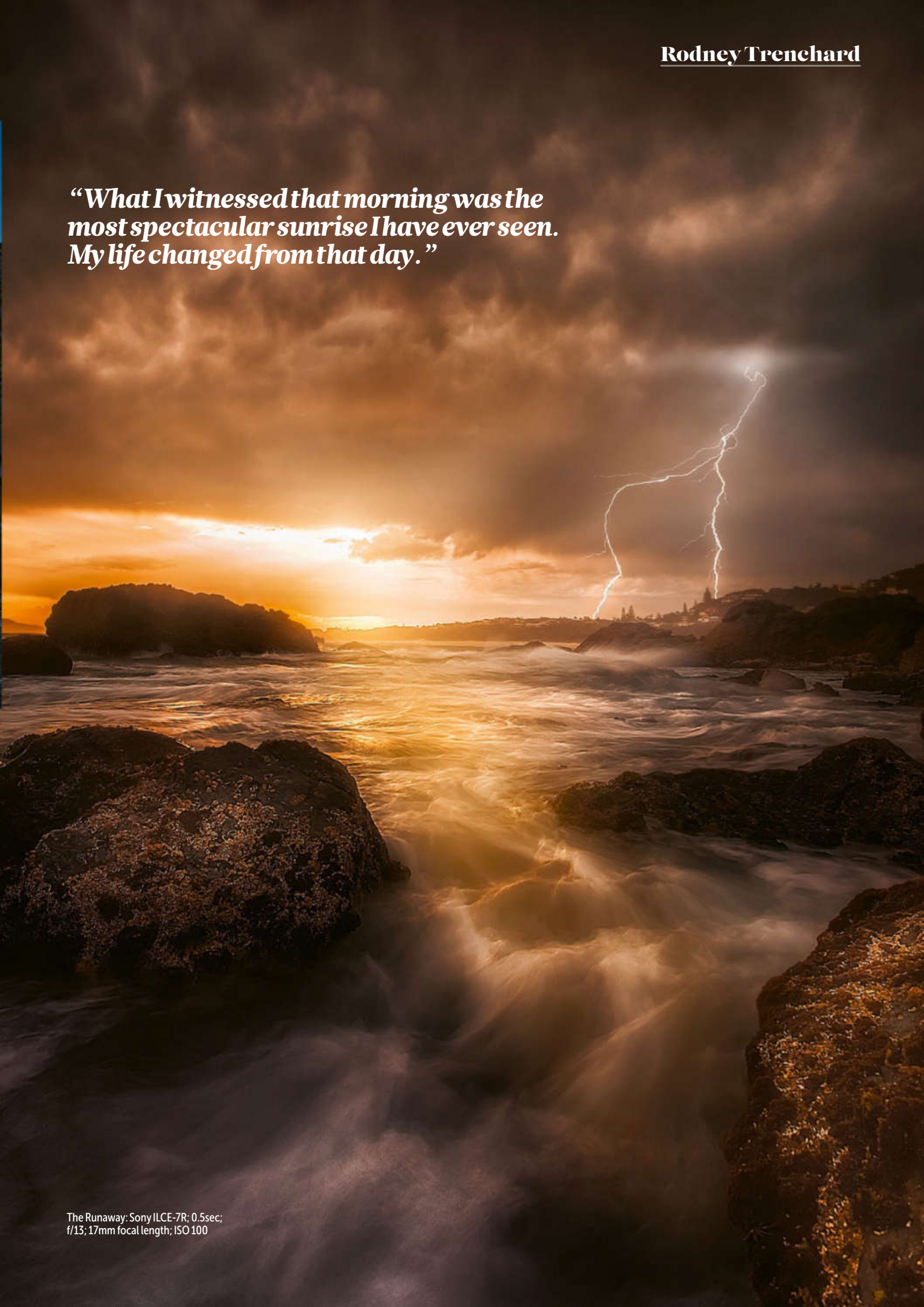
I remember as a child I was always intrigued buy my parents' old Kodak camera. It was one of those long skinny cameras that had the old flashcube. I was not only in wonder about how the camera "took photos" but the workings of the camera also grabbed my attention – the little wheel that used to roll the film on and what the little buttons used to do.

I got my first camera when I was about 14. It was a little compact camera and I used to use it to take photos of my friends skateboarding. We used take selfies long before it was the "cool" thing to do. I used to buy the Kodak high-definition film and as soon as I had shot off a roll I would race down to the local camera store to have it developed.

It was about that time in my life that I noticed images in the local furniture store by the iconic Ken Duncan. The very next day I was up at dawn and walked down to the riverbank to take a "Ken Duncan" photo. What I witnessed that morning was the most spectacular sunrise I have ever seen. My life changed from that day.

I worked after school and weekends so I could buy a better camera. I wanted to purchase a camera that took "wide

"What I witnessed that morning was the most spectacular sunrise I have ever seen. My life changed from that day."



The Runaway: Sony ILCE-7R; 0.5sec; f/13; 17mm focal length; ISO 100



Twisted Trees: Canon 5DMkII; 1/13sec; 50mm focal length; ISO 200

Rodney's Five Must Do's

1. USE A GOOD QUALITY TRIPOD: If I've learnt one thing, it's that cheap tripods cost you down the road.
2. BE YOURSELF: Make your images for you! There can be a lot of negativity on social media sites. If you like your images, than that's what counts.
3. GET UP EARLY AND STAY OUT LATE: The best colours are often well before the sun rises or after it sets.
4. GET OFF THE AUTO SETTINGS: Learn to take control of your camera. It's much less scary than it seems, and when you do this that's when you'll start to realise your visions.
5. ENJOY THE MOMENTS: Sometimes it's nice to put the camera down.

photos" like Ken's, and after some research I found out the camera I wanted was a Hasselblad XPAN. I also found out the cost of the Hasselblad and realised that it was well out of my reach. So I took my savings down to the local camera shop and bought a Pentax Film body. I shot with that camera for almost ten years. Later I added a 300mm lens and a macro lens to join the wide angle lens that camera came with.

Lessons learned

In the beginning I was very much self-taught. Like most beginners I read as much literature as I could put my hands on. Just as I started to get the hang of it there was this massive new development in photography called "digital". I resisted the change for a very long time – but after seeing the images of a local photographer named Matthew Jones, who at the time was producing exceptional High Dynamic Range images well ahead of their time, I knew that I could not wait any longer.

I purchased a Nikon D60 and set about learning High Dynamic Range images. I started posting some of my images on this flash new thing called Facebook and very soon a local studio contacted me to see if I could do their excess post-production work. The studio was called "Photography By Linda" and I worked



"I love looking for new places. Then when it all comes together on location – that's the WOW moment for me."



Gotta Go: Canon 5DMkII; 1/25sec; 50mm focal length; ISO 800



The Cloud Piercer: Sony ILCE-7R; 1/6sec; f/22; 55mm focal length; ISO 50

under Linda heavily for several years, including a few years as a professional wedding photographer. Linda trained me in so many ways. Not only in camera skills but people skills, posing and positioning people, but mostly she taught me about light; how it works, how to use it to my advantage to create the feelings and effects I want. Linda has been the biggest single influence in my photography and I am proud to say that I still work with the studio today, though now it's called "The Photography Hub".

More recently I am inspired by photographers like Marc Adamus and Max Rive. Closer to home, photographers like Kah Kit Yong and Dylan Toh of Everlook photography keep me filled with inspiration.

The lure of the landscape

Ken Duncan was definitely the catalyst for my love of landscape images. I feel I would have ended up shooting landscapes anyway but I probably wouldn't have started until years later if it were not for that print on the wall in the furniture store.

I love to be able to capture a moment that will never be repeated. To me it's also about the adventure. I love spending time scouting locations and looking for new places. Then when it all comes together on location – that's the WOW moment for me. After you've spent months planning, then you've hiked through the dark for three hours to be standing on the edge of a cliff or at the base of a mountain just as the sun rises above the horizon and fills the sky with colours... there's not another soul to be seen and it's just me and Mother Nature. That's what it's all about and it's these moments that keep me motivated.

The process

My thought process starts long before I even get my camera out of its bag. I look for lots of drama in my images. The drama in my images starts in the way I compose.

I start off with strong foreground elements. I

Rodney Trenchard



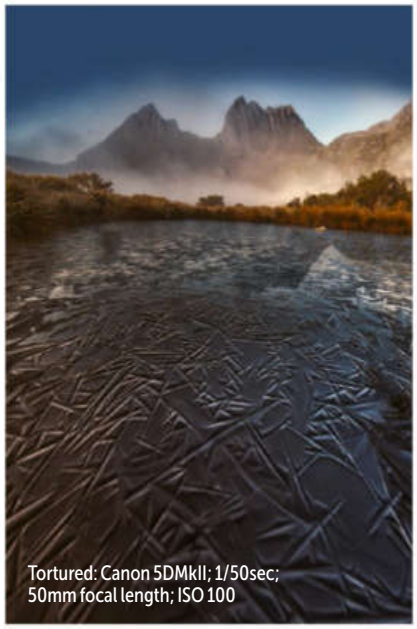
Blue Monday: Canon 5DMkII; 1/40sec; f/22; 17mm focal length; ISO 100



Ride the light: Canon 5DMkII; 60sec; 17mm focal length; ISO 100



Struck: Canon 5DMkII; 1/15sec; 21mm focal length; ISO 200



Tortured: Canon 5DMkII; 1/50sec; 50mm focal length; ISO 100

also like to include strong diagonal lines and geometric shapes to my composition. I find that when these things come together in nature, in combination with some good light, then I am compelled to make an image.

I like to shoot from a low point of view to emphasise the foreground and have the diagonal lead-in lines shaping towards a point of interest. This is sometimes referred to as an X composition.

With my post-production I take a very artistic approach to my images. I like very glowy highlights and super sharpness. I often have to blend multiple frames to achieve the desired results.

Top spots

My favourite place to shoot in Australia is... anywhere coastal! Places with large rock stacks I love. Places like Kiama's Cathedral Rocks and Bombo Quarry. Closer to home, Burgess Beach and Black Head are where you'll find me most weekends. Internationally I love the South Island of New Zealand. Places like Mt Aspiring National Park and Aroaki National Park. I find myself more and more being drawn to the mountains, snow and the cold places on our planet. With that in mind, Iceland, Patagonia and Norway are high on my travel plans for the next few years.

The future

I think a lot of people get caught up in the battle to sell images and make it a profession. Don't get me wrong, I do like to sell and promote my work. I just don't feel the need to make it any more than that. I guess what I am trying to say is that at this point in my photography it's more about creating wonderful images than selling them. I'm satisfied just making images for myself.

For more of Rodney's stunning landscapes, check out RedDoor Imaging.com.au and Facebook.com/RedDoorDynamicImaging

Rodney's Five Basics to Avoid

1. AVOID WONKY HORIZONS: It's very easy to shoot level or crop to be level.
2. AVOID THE "BEST GEAR" RACE: A camera is just a tool for your creative mind.
3. AVOID THE "LIKE" WAR: Social media can be very harsh. It's not about likes; it's about enjoying what you do.
4. AVOID WORKING TOO FAST: When the light is going off, take your time. It's not the right time to make mistakes.
5. AVOID ZOOMING IN TOO FAR: Try shooting those landscape scenes with your widest lens.



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JUST SHOOT

FROM NOVICE TO A RISING STAR IN THE EDITORIAL AND COMMERCIAL INDUSTRY IN LESS THAN FOUR YEARS, CLAY COOK SPEAKS TO JORDAN BUTTERS ABOUT CHANGING CAREERS AND THE SECRETS OF HIS INCREASING SUCCESS

Words: JORDAN BUTTERS

THERE'S A NEW BREED of professional photographer: a generation that has been lured away from the classroom by YouTube videos, blogs and dive-in-and-see experiences. Overrated credentials are substituted for time spent with a camera in hand, learning from peers and experimentation, which is exactly the training that delivered Kentucky-based portrait photographer Clay Cook into a career of his dreams. In an incredibly short time frame, Clay has gone from picking up his first digital SLR to becoming a successful commercial and fashion photographer with a portfolio that could compete with many established names. His unsuspected journey started as a musician when he was asked to design flyers for his band, this soon led to promotional work for other bands and a need to shoot stock images. "Photography snowballed from there," explains Clay. "I started doing small jobs, then noticed that I was getting better clients, revenue and, most importantly, enjoyment from photography."

The business skills acquired in the music industry were directly transferable to photography. Clay's design experience also helped him master processing and retouching quickly, too, allowing him to concentrate on honing his in-camera and lighting skills. "I'm completely self-taught and I developed by actually doing it – practising, experimenting and shooting all the time. A college education is great for learning business skills and marketing, but there's such a wealth of information out there regarding photography that you can essentially train yourself. You can't learn how to be creative in a classroom; creativity comes from getting out there and trying new things."







1) Clay often uses a Photek Softlighter II as his key light.
2) Shot in his home, this image was lit with a Profoto D1 in a gridded beauty dish with two more diffused D1s as fill lights.
3) The iPad is linked to a CamRanger for previewing the images.
4) A recent editorial shoot saw Clay build a winter wonderland set inside a local studio, complete with cornstarch snow!



As any professional photographer will attest, having skill and talent mean very little if no one sees your work – an obstacle that Clay resolved with ingenuity. "I was a nobody photographer so I decided to start a personal project to showcase my capability and hopefully get my name known. I created a series called *Bond Girl*, which comprised ten local models styled to represent famous Bond temptresses. I followed that project up with an even bigger project called *GAGA* – a conceptual story based upon the lyrics of Lady Gaga's songs. I approached them like paid assignments; it took me six months and a couple of thousand dollars to complete, but it was worth it. I made a book from the series and passed it to potential clients at social gatherings and launch parties – it got me my first proper paying clients. I still take on conceptual projects – it's important to shoot for yourself and adds diversity to your work."

Clay is now a sought-after commercial and editorial photographer in Louisville, Kentucky, and there's a huge online buzz surrounding his work. "My style stems from when I used to work with bands as a designer – I enjoyed the dramatic, edgy lighting in the stock images I shot and that transferred to my editorial and commercial work. These areas of the industry aren't easy to break into, but I very quickly realised that this was what I wanted to shoot. In this industry it's crucial to stand out, develop a recognisable style and stick to your guns."

A few moments spent perusing Clay's portfolio and you're likely to reach the same conclusion that I did – this guy knows his lighting. From beautifully crafted studio-shot editorials to delicately fused ambient and flash-lit commercial shoots on location, there's an instantly cohesive style in play here. It's quite the feat for someone who started taking photographs only four years ago and learned mostly from the internet. "I developed my lighting repertoire by studying the work of great photographers, such as Annie Leibovitz. I would seek out their work and deconstruct the lighting, or search online for behind-the-scenes images to see their set up and what lights and modifiers they used. This helped me develop a handful of lighting solutions that I then built on, depending on the brief. One of my favourite approaches is to use a boom arm to light the subject from overhead using a diffused light source to closely imitate soft, natural light. When all else fails, I start with this and go from there."

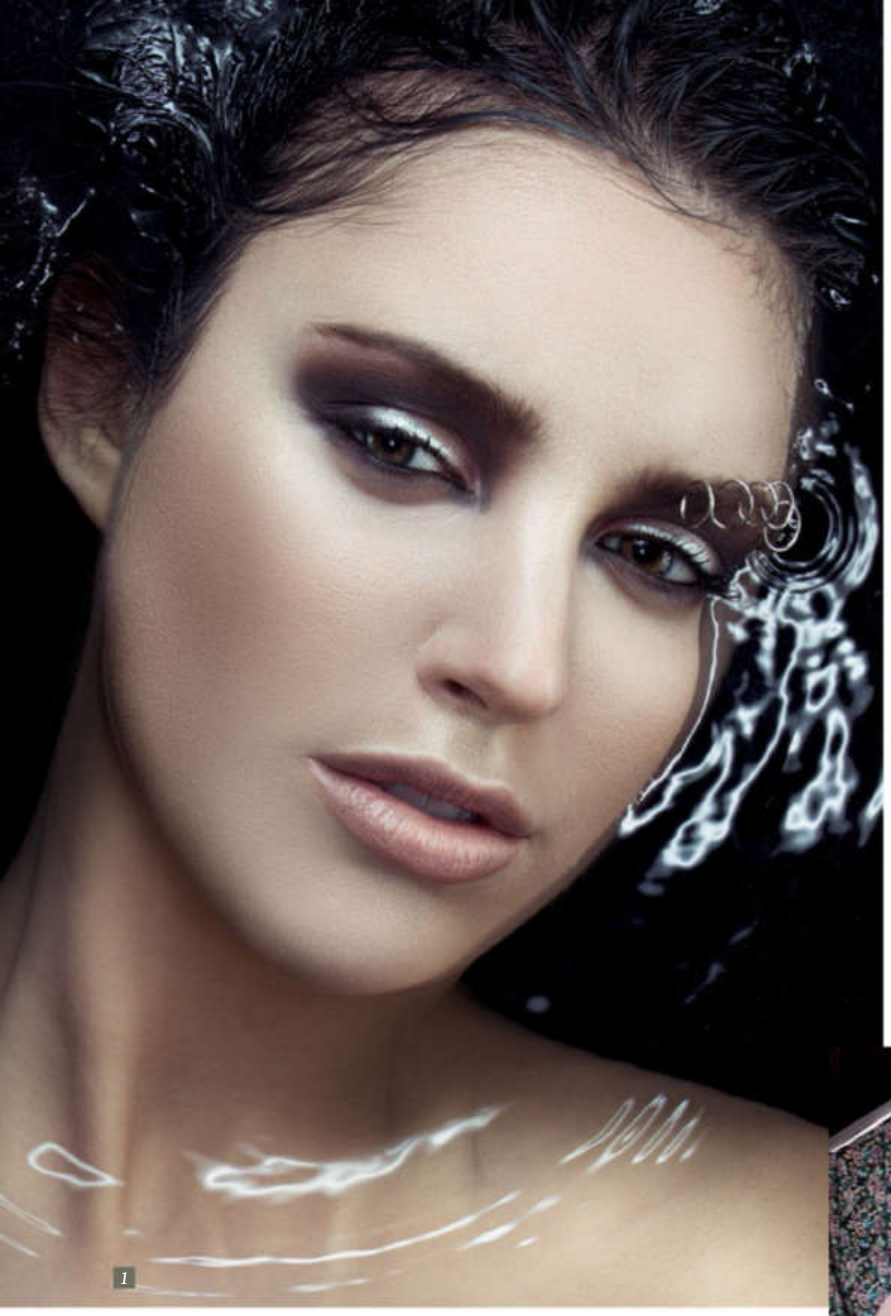
Learning studio lighting requires a studio, often a luxury most aspiring professionals think they cannot afford unless they hire a space. But they'd be wrong; you need very little space at all. Clay does most of his test and editorial shoots in his home studio or, more specifically, his living room. Measuring barely 12ft x 24ft, shooting in his home has forced Clay to master the art of working within confined spaces and it's only benefited his work. "The ceiling height has been the biggest challenge – it's only 8ft high," Clay reveals. "It taught me a lot, though: I can now go into any situation, or any space and light the shot. I also like the intimate feeling of my studio – it's like when a band plays gigs in both arenas and smaller clubs; its good to play in arenas but it's the more intimate, smaller venues that deliver the best experiences."

When granted a larger space to play in Clay really likes to flex his skills. A recent winter fashion shoot put Clay to the test. He was tasked to create a convincing outdoor winter scene, complete with blizzard, in a studio. "It was a very challenging shoot but the images turned out to be some of my favourite thus far," explains Clay. "The brief called for a Colorado-esque mountain ski scene, so we



Clay Cook

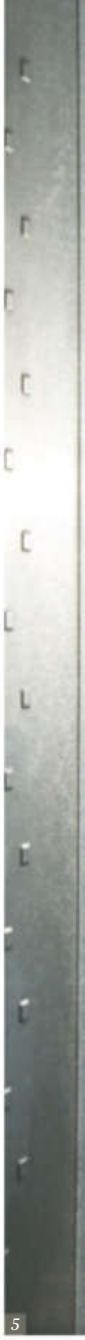
"In this industry it's important to stand out, develop a style and stick to your guns"











1 & 2) The model is laying in a paddling pool draped in black fabric. A gridded beauty dish was used as key, two strip softboxes as side lights and a ringflash as fill. *3 & 4)* Clay likes to set his light up close to his subject so that the light wraps around the model. *5)* A great backdrop can make all the difference. *6)* This group shot was lit with one light over three exposures and composited together. *7)* A test shoot in Clay's modest home studio.



"Keep shooting. The more you shoot, the more you set yourself up for failure, and the more you fail the more you learn."

built a set in a local studio and used cornstarch for fake snow. To create the blizzard effect, we needed a base of 'real' snow to be blown across the set using fans, which we could then build on and enhance in post-production. The client also wanted the shoot to look moonlit, so I used four lights: one as a key and three to gently fill in the set. I could then darken areas of the background in Photoshop, which is a lot easier than dodging areas of dark shadow."

When Clay's not busy shooting commissions or realising his own creative projects, he's teaching his peers and aspiring photographers by sharing his process, putting back in to the pool of talent that gave him the knowledge to succeed. A quick visit to his blog and you're greeted by a huge amount of information about his photo shoots – from behind-the-scenes images, tutorials and lighting diagrams to first-person tuition videos for YouTube that he creates by mounting a GoPro to his camera's hotshoe. While some professionals like to hold their cards close to their chest, Clay has his process printed on a billboard for all to see. "The knowledge that I gained from others really helped me when I started and I feel it's important to pay it forward – that's why I share lighting tutorials, behind-the-scenes videos and my articles on *Fstoppers.com*. I also run an annual internship programme where I take four young photographers under my wing who get to assist me for 12 months. Assisting really helped me learn when I first started, and by the end of the year they're light years ahead of where they'd be if they had sat in a classroom for the same amount of time; they have hands-on experience and, crucially, they make industry contacts. This year I had more than 40 people from across the US and even abroad apply for the internship. Two of the students that I eventually selected are moving halfway across the country for the position – it's actually quite flattering!"

With his self-confessed transparent ethos in mind, I ask Clay what advice he would offer anyone wanting to pursue a career in editorial and commercial photography. His answer: "Keep shooting, then when you're done shooting, shoot some more. The more you shoot, the more you set yourself up for failure, and the more you fail the more you learn. I think that's been the biggest thing that I've taken away from the entire experience as a photographer – every time I fail, I learn what not to do. Things have moved incredibly quickly for me in my photographic career but the successes are actually a direct result of the failures. If I had to do it all again, I wouldn't change a thing. I love what I've done, I love what I do and I'm really excited for what I'm going to do next."

To find out more about Clay's work, visit: www.claycookphotography.com

Clay Cook


6


7

Shadow Play

CANBERRA PHOTOSHOP GURU **SHANX BOSE** HIGHLIGHTS HIS FAVOURITE GO-TO TECHNIQUES FOR ADDING REALISTIC SHADOWS TO COMPOSITE IMAGES.

In this beginner-intermediate tutorial, I will show you four techniques I use interchangeably to add shadows to subjects in my composites. We recently shot an image titled "Paradise", featuring talented Canberra model Gabriella Leilani Gross, and I used Method 4 outlined on page 39 to add realistic shadows.

Each method has a slightly different look, so it is also largely personal preference and whether or not you think it fits the scene and the light source (hard or soft). But ultimately they are creative choices, so use what appeals to you as an artist.

I have already prepared the background (shot at Batemans Bay, NSW) and our model/subject, who was shot in studio, extracted and placed in the scene – the only thing missing is the shadows, which is what we'll be addressing in this tutorial.

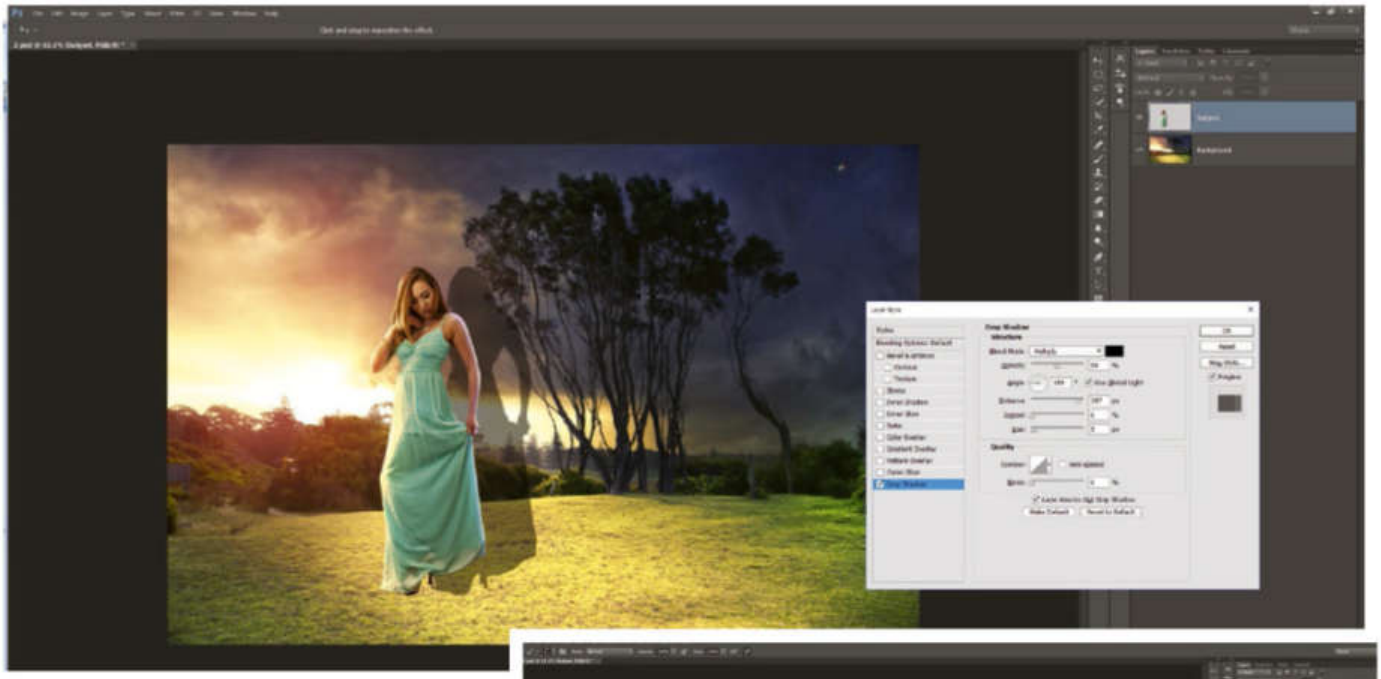
You can see that without the shadows the image (right) doesn't quite look right. Adding the shadows will create a world of a difference to the image and take it closer to believable.





FINAL IMAGE

METHOD 1: USE DROP SHADOW LAYER STYLE



1 Double Click the subject layer to open the Layer Style dialog. From the layer styles on the left, select 'Drop Shadow'. While the dialog is still open, click on the subject and drag the shadow out. Play with variables such as the opacity (I have set it to 50%), spread and size. Depending on the quality of the light in the image, use the size setting to make the shadow soft or harsh. For a bit more shadow detail, you can click the colour box and select dark colour from the environment – instead of black – as shadows will take on a bit of the colour of the ground it falls on.



2 Right click on the Drop Shadow effect in the subject layer. From the menu, select 'Create Layer'. This will create the shadow style on a separate layer.



3 Select the Drop Shadow layer, press CTRL+T for transforming it. Select Distort. Using the sizing handle in the top middle, reposition the shadow by dragging down towards the right.

4 The shadow is facing the wrong way. Right click the shadow and select 'Flip Vertical'. Reposition the shadow towards the subject's feet. Perform a distort again and fine-tune the shadow position and perspective using the transform grid. Holding down CTRL while repositioning the shadow gives you finer control. Also as the sun is low, the shadow is elongated and a little harsh.





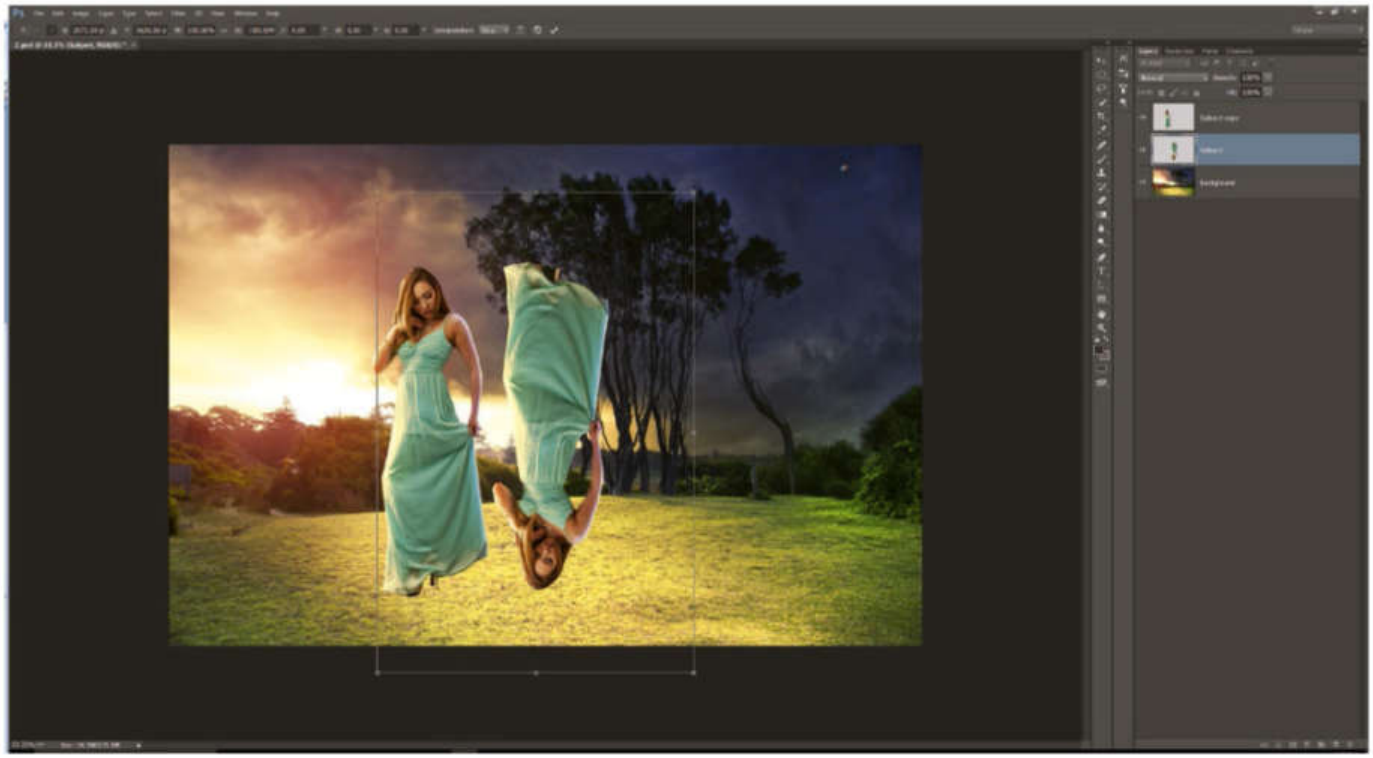


5 We're almost done. Duplicate the shadow layer. With the bottom layer selected, select Filter/Blur/Gaussian blur. We do this because most shadows have a darker core, with an outer fuzzy area. Because this is harsh lighting with the sunlight, we'll only select a 10 pixel radius.



6 For the final touches, group the two shadow layers by selecting them both, and pressing CTRL+G. Give the group a name called 'Shadows'. Add a layer mask. Select the Gradient tool, and pick Linear Gradient from the gradient styles from the top menu. With the layer mask selected, add the gradient to the mask, so the shadow gently fades away. Tweak the opacity of the group if required. This step adds just a bit more realism, but is also a matter of preference. We're done!

METHOD 2: INVERT AND DE-SATURATE



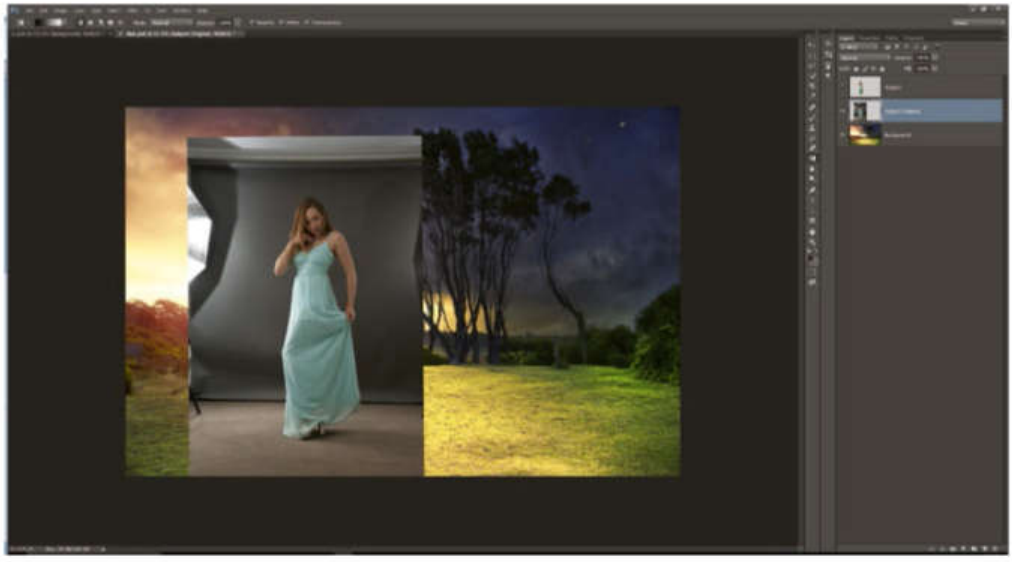
1 Duplicate the subject layer. Select CTRL+T for transform on the bottom layer and move it out for a clear view. Click OK.



2 Select Image/ Adjustments/Hue-Saturation. Bring the Lightness slider all the way to black. Drop the opacity to 50% or to personal preference. Using CTRL+T for transform again, line the shadow up with the heels of the shoes and the dress. Right click and select distort. Move the shadow up and to the right and adjust it.

3 From here on, follow steps 5 and 6 as outlined in Method 1. We're done!

METHOD 3: USE CHANNELS



1 For this technique we'll need the original image. If you notice, as part of the lighting set-up, shadows were created naturally. Our first step is to select these. Ensure when placing the extracted subject on a layer that the original image is also placed and sized along with the cut-out as well, in a below layer. Ensure only the original image layer is enabled. Refer to the illustration.



2 Go to the channels tab. If it is not available by default, select Window/Channels from the main menu. Look for the channel with the most contrast by clicking on each channel. In my case, I chose the blue channel. With the blue channel selected, switch back to the layers tab. Add a levels layer. Clip it to the image by CTRL+ALT+G. Switch back to the channels tab. Re-select the blue channel if you need to. Now push the black point slider to the right, mid-tones to the left, and white point slider to the left – we do this to enhance the contrast further to the point where we only (mostly) see whites and blacks. Now, click the dotted circle at the bottom, which will load the blue channel as a selection. Invert the selection by CTRL+SHIFT+I.

3 Switch back to the layers tab. Delete the levels layer and the original subject image layer. This should leave behind just the selection. Enable the extracted image layer (the subject layer) if you want. Add a blank layer by selecting Layer/New/Layer. Set the blending mode of this blank layer to Multiply. Pick a black colour or dark gray colour and a very soft brush of a slightly large size. Or you can also sample a dark area from the ground from the scene. Now carefully paint over the selection representing where the shadows were in the original image. Remove the selection by pressing CTRL+D. This is now the shadow layer, and as it is a real representation of actual shadows captured, there's no more work to be done – but if you want to, you can add a mask to this layer and fine-tune it by masking away the edges further to tweak it.



METHOD 4: USE HARD LIGHT BLEND MODE

1 This is the method I most often use. I consider this an improvement over the channels method as it's much easier to achieve the same effect. Refer to Step 1 of Method 3 for the starting point. Now simply set the original layer to hard light blend mode. This will reveal the shadows, but also other artefacts, such as the umbrella and light stands used to light the subject.





2 Clean up the artefacts by adding a layer mask to the original image layer. Using a large soft black brush, carefully mask away the artefacts. Leave the original shadows in place. And that's it – we're done! That was simplest way to add a shadow to a composite – simply leverage the natural shadows cast as part of the shoot.

3 If you want to add a bit of extra pop to the shadows, simply duplicate the original image layer. Group the layer below and the duplicate by CTRL+G. Call it Shadows. Add a mask to the group and mask away areas that are too intrusive or dark, using a large, soft black brush.



For more tips, techniques, and tutorials from Shanx and his team, check out www.Facebook.com/maxphotography.au



The Storyteller

Words: JORDAN BUTTERS

TAKE ONE CREATIVE PHOTOGRAPHER WHO KNOWS NO BOUNDS, GIVE HIM A STUNNING MODEL, BEAUTIFUL COSTUMES AND THE WORLD'S BIGGEST MONASTIC LIBRARY TO PLAY IN – AND YOU HAVE THE MAKINGS OF A FAIRY-TALE PHOTO SHOOT. JORDAN BUTTERS CATCHES UP WITH BENJAMIN VON WONG TO LEARN MORE...





IF YOU'VE LOGGED onto any form of photography website, blog or forum in the past few years, then there's a good chance that you've seen an image, read a story or watched a behind-the-scenes video created by talented photographer Benjamin Von Wong.

Hailing from Montreal, Canada, Von Wong, as his tens of thousands of online followers know him, has become somewhat of an internet sensation – but not by happy accident. Careful planning, technical know-how, flawless photography and a fantastic grasp of social networking has resulted in Von Wong's work making a big impact time and time again. For most people, having a single image or project 'go viral' is enough, for Von Wong it's his entire business plan – and it looks to be working: "My prerogative for every project is to make it as awesome as it can possibly be and extend its reach far and wide," he tells me. "If the end result isn't something that I've not done before and something worth sharing with my followers then I won't even consider it. I only take out my camera to create something new, exciting and that I'm proud to share – or else, why bother?"

Von Wong does more than just create ground-breaking, surreal and well-executed imagery – every project he takes on is presented as a package, optimised for consumption by traditional and new media, as well as online viral success. For every image or set of images there's a blog post documenting the story of the shoot. Fantastically detailed behind-the-scenes images are guaranteed, lighting diagrams and camera settings are a regular occurrence and there is seemingly a film crew following Von Wong wherever he goes too. Whether you're interested in photography, enjoy storytelling or take pleasure from seeing fantastic photography, Von Wong has something to show you. "Everything I do is designed to have maximum reach online – it's how I've built my brand. In my eyes you can create the greatest work of art but if no-one sees it, then what's the point? When I share a project I want it to appeal to a broad spectrum of people – some might like the blog post or story more, some might like the images, whereas some just want to know what gear and settings I used. It's never just a photo; there's a story behind everything."

Where in the past the art of successful professional photography has often been shrouded in smoke and mirrors, leaving amateurs and enthusiasts alike wondering how the heck these images are created, or how on Earth they're supposed to make a living doing this, Von Wong's approach lifts the lid on how it really works. This is the full story of a professional photoshoot, rather than just the last chapter. "When I'm planning a shoot I'll have the blog post in the back of my head at all times," he reveals. "I've had situations where the final images haven't turned out that great, so I'll end up blogging about how I screwed up and what I learnt from it – that might not get me clients but it helps me connect with my fans. This process is becoming more and more honed. Creating the images has almost become the easy part – I put less effort into worrying about the kit or technical aspects of the shoot and more energy into thinking about how to make the project reach a wider audience. I'm focused outside of photography."

It was the viral reach of one of Ben's recent projects that made me want to delve further into the story of his success. The adventure involved a cross-continent road trip culminating in a visit to Stift Admont; a Benedictine monastery in Austria, where Ben and his crew conducted the first ever conceptual photoshoot in the monastery's 240-year old library, the largest of its kind. The concept alone sounds impressive. "I've wanted to shoot inside a grand library for a long time," Ben tells me. "My original plan was Prague, as it has the most amazing, ornate libraries, but we could never get the permission, access or funds to make it happen. I was in Europe for Photokina last year when a friend of mine reached out to me and offered to use my desire to shoot these images as an example for a business model – a location scouting service. He agreed to sponsor the shoot and help me find a location and, after contacting Stift Admont, we were lucky enough to be allowed to visit and shoot in their library. I reached out to my followers in Europe, assembled a team and hit the road."

Ben turned to his muse, UK-based model Jen Brook, to be the subject of his epic library



1) "Lighting the library was a challenge – Eva Creel, one of my assistants, acted as a stand-in while we built up the lights."
2) "I love that we managed to get Brother Maximillian, a real-life monk, to model in the background for this shot."
3) "Brother Maximillian was incredibly accommodating and seemed to like the images. Maybe he'll let us return one day!"
4) "Setting up a shot during the last minutes of natural light – my key light was inside a Broncolor Para 133 reflector."





3 EVA GREEL



4 EVA GREEL


1 EVA CREEL


2 EVA CREEL


3 EVA CREEL


4 EVA CREEL


5

"You have to remind yourself that these aren't props and this isn't a set, it's all real – a haven of untouched history"

shoot, and Polish dress designer Agnieszka Ospia to supply a costume worthy of the location. A few days later, upon arrival at Stift Admont, nothing could have prepared the team for their first impressions. "It was the most amazing feeling to walk through those doors," Von Wong explains. "The library was built in 1776 and contains over 70,000 books and manuscripts, some hundreds of years old, which fill the walls floor to ceiling. You have to remind yourself that these aren't props and this isn't a set, it's all real – a haven of untouched history that not many people get to see. I spent a few minutes admiring the details, contemplating the beauty of the decor. After that I kicked back into photography mode and thought: how the heck am I going to shoot this place?"

In such an ornate, yet busy environment, good composition makes the difference between a stand-out image and a snapshot. Given the magnitude of the location, Von Wong knew that a tight crop on the model, or rendering the shelves upon shelves of ancient books as a blur wasn't an option – he needed to go wide. "I looked for intersecting lines and angles within the architecture, and looked to place my model within those lines. The library contained a lot of symmetry, so I used that as a big part of my composition too. There were the most beautiful painted murals on the domes above our heads, so I knew I had to get low and shoot upwards to make them a part of the composition."

The other element that Von Wong had to factor in was lighting – having travelled light (excuse the pun), and under the restraints of shooting outside of the abbey's opening hours, Von Wong and his team had to rely on their limited lighting kit to illuminate his model and the grand environment around them. "I travel with four Broncolor lights and Move 1200L battery packs. I built my lighting set up piece by piece, starting with a main, punchy light using a Broncolor Para 133 reflector – I love the light that comes out of this modifier; it's directional but soft and offers beautiful wrap-around. I then added a softbox or hard light to backlight Jen, separating her from the environment. It was then a case of figuring out how to light the rest of the damn place! Luckily one of the guys with us had four flashguns with him so we scattered those around the room to light



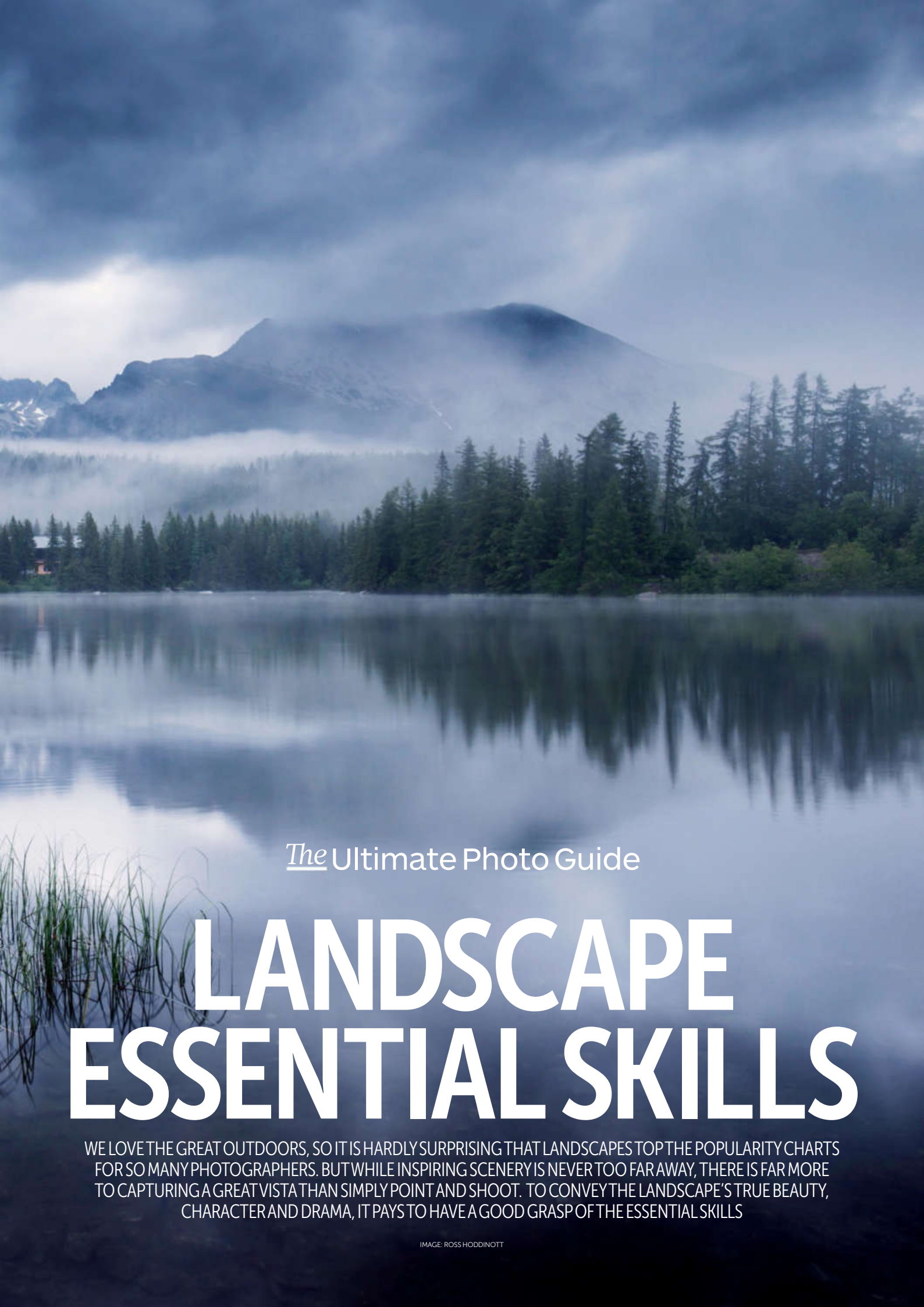
different parts of the environment and keep the sense of depth in the location. In an ideal world, and with a bigger budget, I would have lit from outside, simulating daylight, but we were on the third floor and had to work with what we had. I was a little stressed, purely from wanting to do this amazing opportunity and location justice, but the best part of a shoot comes when you realise that you're not screwing it up – that feeling of being on top of things and it working out well is hard to top for me."

Von Wong's focus and drive is hugely admirable, and his passion for creating eye-catching pictures that get people talking, combined with an vast understanding of the technical side of photography is only ever going to lead to the creation of incredible images. While he makes a living from professional photography, it isn't the driving force behind him picking up a camera. It's the personal projects that he takes on, such as this one at Stift Admont that attracts future prospects, as he explains: "If you don't do the work that you want to do and put it out there then how do you expect to be given the opportunity to do it again? Every time I've been offered an opportunity it's as a direct result of the creative personal work that I've done – clients see my work and want me to create something similar for them and know that, because I push the boundaries, they can come to me with an idea, no matter how surreal or imaginative it may be, and there's a good chance that I can make it happen. But more importantly than income, projects like this give me great life experiences and invaluable memories. My journey to Stift Admont was an unforgettable road trip across Europe with amazing friends that culminated with a creative photo shoot in a 240-year-old abbey. I had a great time doing it and came out the other end with some pretty spectacular images. That's good enough for me."

1) "I only met my assistant, Zoe Klomp, at Photokina a few days earlier. She hid under Jen's dress to plump it out!"
2) "After a few minutes taking in the beauty of the grand library it was down to business – how was I going to shoot it?!"
3&4) "Shooting is a collaboration – model Jen Brook and make-up artist Bianca Kristin Woltsche review the progress."
5) "It wasn't until after the shoot that I drew similarities in the results with scenes from Disney's *Beauty and the Beast*."

To view more of Von Wong's work and to keep up to date on his adventures, visit: www.vonwong.com





The Ultimate Photo Guide

LANDSCAPE ESSENTIAL SKILLS

WE LOVE THE GREAT OUTDOORS, SO IT IS HARDLY SURPRISING THAT LANDSCAPES TOP THE POPULARITY CHARTS FOR SO MANY PHOTOGRAPHERS. BUT WHILE INSPIRING SCENERY IS NEVER TOO FAR AWAY, THERE IS FAR MORE TO CAPTURING A GREAT VISTA THAN SIMPLY POINT AND SHOOT. TO CONVEY THE LANDSCAPE'S TRUE BEAUTY, CHARACTER AND DRAMA, IT PAYS TO HAVE A GOOD GRASP OF THE ESSENTIAL SKILLS

IMAGE: ROSS HODDINOTT



UNDERSTANDING LANDSCAPES

FEW SUBJECTS ARE AS POPULAR OR ACCESSIBLE, BUT THAT ISN'T TO SAY IT IS AN EASY DISCIPLINE. BEAUTIFUL SCENERY DOESN'T GUARANTEE YOU CAN TAKE GOOD IMAGES

TO CAPTURE A truly great landscape image, you need to take the viewer on a journey – leading their eye around the frame and retaining their gaze by implying depth or motion. Obviously, composition is a key component, and is something we focused on in another issue (*DP* Volume 45). However, a good understanding of your camera gear, exposure and filters is every bit as important. In order to successfully convey the beauty of a location – not to mention your vision and creativity – you need to make educated choices. What focal length suits the scene best? Is a fast or slow exposure needed? Do you require front-to-back sharpness, or would a shallower zone of focus create a more artistic, interesting result? Would filters enhance the scene? These are questions you need to ask yourself when shooting landscapes and, with time, the answers become instinctive, and this in-depth guide will put you on the right path.

LANDSCAPE *Gear*



WIDE-ANGLE LENS: A choice of focal lengths, from 20-200mm is recommended for photographing landscapes. However, a wide-angle will be your most useful lens, with zooms being the most practical and versatile. One in the region of 17-35mm (around 11-24mm for APS-C) is the perfect choice, providing a wide, stretched and interesting perspective.



"COMPOSITION IS A KEY COMPONENT. HOWEVER, A GOOD UNDERSTANDING OF YOUR CAMERA GEAR, EXPOSURE AND FILTERS IS EVERY BIT AS IMPORTANT"

ROSS HODDINOTT

LANDSCAPE *Clothing*



BASE LAYERS: You won't feel creative if you are cold or wet, so appropriate outdoor clothing is essential. Good base-layers, designed to wick moisture away from your skin and keep your body warm and dry, are important in cold or windy weather. Combined with good outer layers, they will ensure you keep warm while standing around waiting for the right light.



HAT: Not just a fashion statement – your parents probably told you all about the benefits of wearing a hat when you were a kid! We lose so much heat from our head that a hat is a logical and important item of clothing in freezing weather. A woolly hat or beanie is fine. In really cold weather, you may even be better off wearing a full-face balaclava.



GLOVES: Good gloves are important. However, in addition to being warm, they need to be thin enough to allow you change camera settings and attach filters. There is a range of Etip gloves available designed for use with mobile phones too. Cycling or golfing gloves can actually prove suitable for photographers too.



WIND & WATERPROOF JACKET: Quality wind and waterproof jackets are costly, but an important long-term investment. They will keep you protected from the wind chill and ensure your body stays warm and dry. Look at leading brands, such as 66 North, Montane, North Face, Paramo and Rab, amongst others.



WALKING BOOTS: Many of the best, most photogenic viewpoints are relatively wild and remote. Often you will need to walk over uneven ground or clamber over rocky foreshores to reach where you want to go, so good, supportive and waterproof footwear is an absolute must. Don't scrimp on boots or you'll regret it quickly – Brasher, Merrell, Salomon and Scarpa are all top brands.



TRIPOD: An essential tool for the landscape photographer. They offer the stability required to shoot longer, creative exposures and allow you to carefully fine-tune your composition. If budget allows, carbon-fibre legs are lighter and more comfortable to carry. Opt for sturdy legs that provide stability, height and low-level capability.



TRIPOD HEAD: Your choice of tripod head is almost as important as the legs. The design that you choose will greatly depend on your preference. Ball-and-socket heads are popular, but for static subjects – like landscapes – the added precision of using a geared head can be advantageous. Ideally, try before you buy to see which your prefer.



FILTER SYSTEM: Filters (page 58) remain an essential tool for landscape photographers, even in the digital age. It is best to invest in a system designed to hold square and rectangular filters. They are available in different sizes, however smaller 84/85mm systems can cause vignetting on wider lenses. Therefore, if your budget allows, invest in a 100mm system.



REMOTE DEVICE: Using a tripod unfortunately doesn't guarantee shake-free results. Even the action of physically pressing the shutter button can create camera movement that may soften image quality. Therefore, it is best to always use some sort of remote release device when shooting landscapes. This might be in the form of a cable release or wireless remote.

ACHIEVING A GOOD EXPOSURE

EXPOSURE IS THE VERY HEARTBEAT OF PHOTOGRAPHY. IN ORDER TO EXPOSE CORRECTLY AND CREATIVELY, YOU NEED TO BE IN CONTROL OF YOUR SETTINGS

DIGITAL CAMERAS ARE so intelligent today that you can simply select one of your camera's automatic exposure modes, and start shooting. However, doing so would severely limit your creative options. Many consumer cameras boast a number of Picture or Scene modes, tailored to optimise settings for a particular subject. There is normally a Landscape mode, which will bias settings to suit this subject; however, they offer photographers very limited control – instead, you are far better off switching to aperture-priority mode.

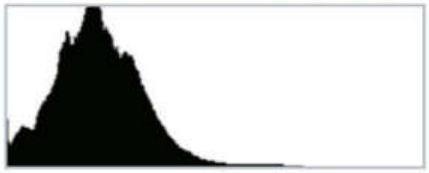
While some photographers favour working in manual mode, aperture-priority is perfectly suited to landscapes. It is a semi-automatic mode, where you select the f/stop required, and the camera does the rest for you – setting the 'correct', corresponding shutter speed. This mode gives you complete control over depth-of-field – allowing you to vary the zone of focus to suit the scene in front of you. The mode keeps things simple and easy, while affording you the level of control required for shooting and doing justice to great vistas. It is actually the mode most professional landscape photographers tend to use.

Metering systems are not infallible, however. They are easily fooled and prone to error in tricky, contrasty and/or low light; or when a scene is dominated by light or dark tones, such as when shooting in snow. Thankfully, exposure error is quick and easy to identify if you keep an eye on the histogram. Some models allow you to view a 'live' histogram in LiveView mode. However, more commonly, you view the histogram after you've taken the image, by viewing the histogram screen while reviewing shots. Quite simply, the histogram is an essential exposure aid – see the panel below.


UNDEREXPOSED


OVEREXPOSED


CORRECT EXPOSURE





HOW TO READ A HISTOGRAM TO ENSURE A GOOD EXPOSURE

Of all digital innovations, the histogram is surely the most useful. It provides a graphic representation of how the tones are distributed in the scene. They are two-dimensional graphs, with the horizontal axis representing the picture's tonal range from pure black (far left) to pure white (far right). The vertical axis shows how many pixels have that particular value. Histograms with large numbers of pixels grouped at either edge normally indicate poor exposure. For example, graphs skewed to the left would indicate that the shot is dark and probably underexposed. If there is a large peak to the far right, the histogram is indicating that the photo is very light and overexposed. When the histogram is effectively 'overflowing' off the edge of the graph, it is said to be 'clipped' – with no detail or data recorded in those areas.

You will often read about the so-called 'perfect' histogram – one showing a full range of tones across the horizontal axis with the majority of pixels placed around the centre so the graph resembles a range of mountain peaks. However, in practice, the shape of histograms vary hugely and are very dependent on the brightness of the scene. For example, if you are shooting a silhouette, you would fully expect to see a sharp spike to the left of the graph. Therefore, always employ a degree of discretion when interpreting histograms.

Histograms will quickly reveal under and overexposure, giving you the knowledge and confidence to alter exposure accordingly. If an image is too bright, reduce the exposure by applying negative compensation (giving a faster shutter speed). If the shot is too dark, apply positive compensation (for a slower shutter speed).

The histogram is also essential should you wish to expose to the right (ETTR) in order to maximise detail – see panel, right.

Above: A quick glance at the histogram shows you everything you need to know about your exposure. A graph weighted to the left often indicates underexposure, while one weighted to the right might mean overexposure, depending on the scene.

EXPOSING TO THE RIGHT

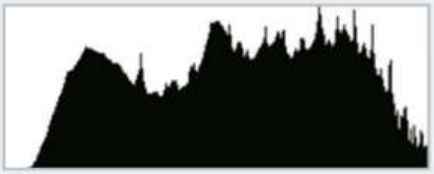
Exposing to the right is a slightly more advanced, Raw-file-only, technique designed to help photographers capture the largest, highest-quality file possible. Due to their design, image sensors record more tonal levels – and less noise – in the brightest part (the right side) of the sensor. Therefore, if you intentionally overexpose images so that as much information as possible is recorded in the right of the graph, you will achieve larger file sizes with smoother tonal transitions and more detail.

Exposing to the right – or ETTR – needs to be applied with care. If you push your exposure too far – to the point where the highlights are actually clipping – you risk ruining the shot. Instead, you are looking to achieve an exposure where the histogram is nuzzling up to the right edge of the graph. Keep applying positive exposure compensation until

ALL IMAGES: ROSS HODDINOTT

you do this. Different scenes will require different levels of exposure compensation – use the histogram as your guide. By their nature, ETTR images can look very washed out and devoid of contrast at first. However, once you adjust exposure, brightness and contrast during your Raw conversion, the image will once again resemble the original scene. By capturing more tonal levels and less noise, your images will enlarge more successfully too. This is great news for landscape photographers who want to capture fine detail and display their images big for printing and publishing. Exposing to the right requires using slower shutter speeds, so be aware of the effect this will have on your scene.









Right: The image looks overexposed on the back of the camera and before processing, but the histogram tell us that no data has been 'clipped'. During processing, the exposure is recovered, retaining maximum detail and minimum noise.

UNDERSTANDING APERTURES

ROSS HODDINOTT REVEALS HOW APERTURE CHOICE IMPACTS ON THE LOOK & SUCCESS OF YOUR IMAGES, AFFECTING BOTH DEPTH-OF-FIELD AND EXPOSURE

JUST AS THE pupil of the eye widens and contracts to control the amount of light reaching the retina, the size of the aperture can be made bigger or smaller to determine the amount of light allowed to pass through the lens and strike the sensor. Select a wide aperture and light can pass through quicker. Select a small aperture and it will take longer for sufficient image-forming light to expose the sensor, but you achieve a greater depth-of-field as a result. Aperture has a reciprocal relationship with shutter speed (page 54).

Aperture size is represented by numbers, or f/stops. Typically, the scale ranges from f/2.8 to f/22, although this varies depending on the lens. Confusingly, larger apertures are represented by lower numbers, for example f/2.8 or f/4. While larger numbers such as f/16 or f/22, indicate a small aperture.

Aperture choice is one of the most important decisions you have to make when taking landscapes. You need to be in full control of aperture selection, which is why we recommend you use your camera's aperture-priority mode; the right aperture can help your landscapes look three-dimensional and lifelike. You will normally want a deep zone of focus to ensure everything from your foreground to the horizon is acceptably sharp. Obviously, there are exceptions to the rule. For example, a shallow depth-of-field can be useful to help make a key subject stand out against its surroundings – maybe a building or tree within the landscape. However, more often than not, you will want a large zone of focus when shooting sweeping views, so it's best practice to opt for a small aperture like f/11 or f/16. It is normally best to avoid your lens's smallest apertures, though, as they tend to suffer from an image degrading effect called diffraction (see panel, opposite).

There's no such thing as the best aperture for landscape photography – it just depends on the scene, your set-up, and the result you desire. However, in most instances, selecting f/11 or f/16 will generate sufficient depth-of-field for landscapes. However, there are other factors controlling depth-of-field to consider too. For example, where you focus will affect depth-of-field too – we will look at this more closely over the next few pages.

Focal length also affects depth-of-field. Longer lenses appear to create a shallower zone of focus than shorter ones. Happily, wide-angles, the mainstay of landscape photography, have an inherently large depth-of-field, making it easier to achieve sufficient focus when shooting large vistas.

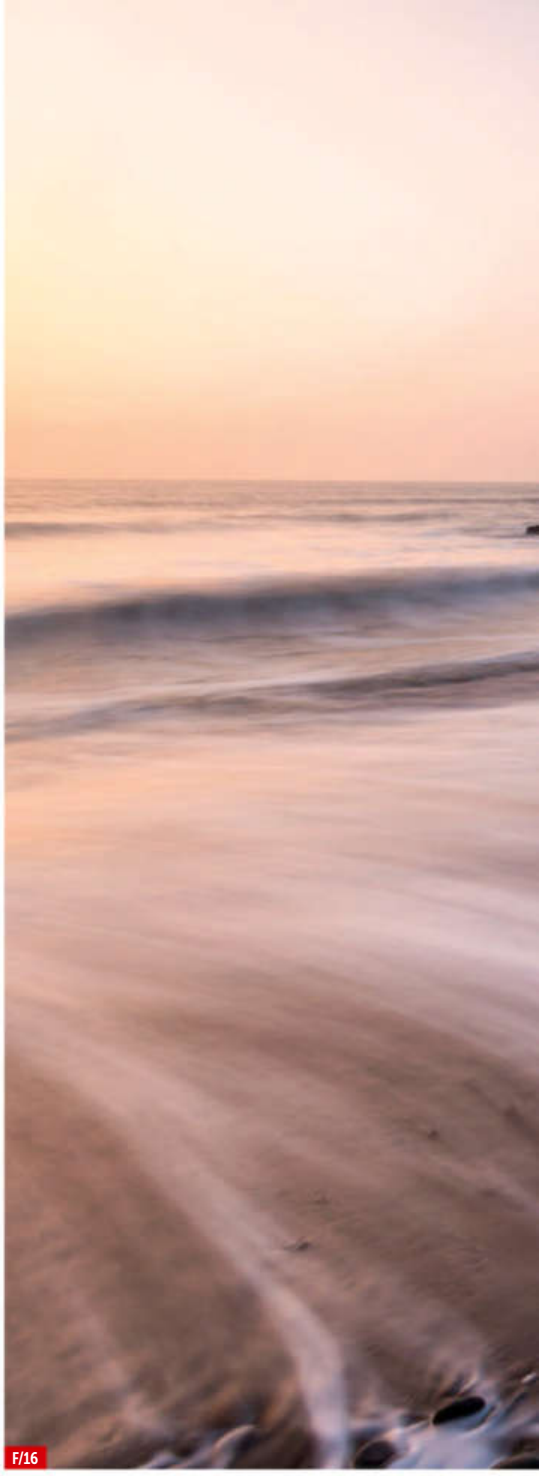
ALL IMAGES: ROSS HODDINOTT



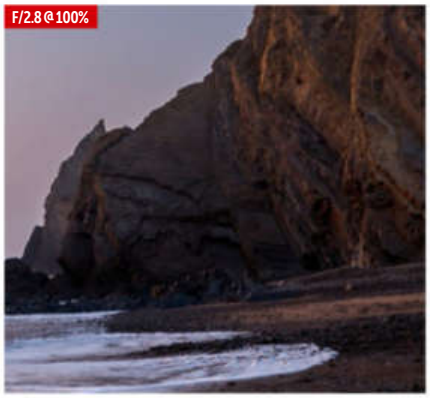
1 For the vast majority of landscapes, you will desire front-to-back sharpness. This scene proved no different. I wanted everything from the pebbly foreshore to the cliffs in the distance to be acceptably in focus. I composed my shot, focused on one of the larger stones in the foreground, and released the shutter. However, by using a large aperture of f/2.8, everything beyond the point of focus quickly drifts out of focus.



2 To generate a wider depth-of-field, I decided to select a smaller aperture and in doing so extend depth-of-field. Remember, shutter speed lengthens as you decrease the size of the aperture, so a tripod is important for stability. I kept my point of focus exactly the same and the subsequent image is sharper. However, viewed at 100%, distant objects, like the cliffs, still aren't quite sharp enough..



3 In order to achieve an even larger depth-of-field, I selected a smaller aperture of f/16. I purposely avoided the lens's minimum f/stop of f/22 due to the increase in diffraction. Again, I kept my point of focus on the same nearby rocks. The change in f/number did the trick here, producing a sufficiently wide depth-of-field to keep everything from the foreground right back to the rocks in the background acceptably sharp.







JARGON BUSTER *Diffraction*

Once you grasp that smaller apertures generate more depth-of-field, you might assume that you'd be best to always use your lens's minimum aperture. However, an optical effect called diffraction actually softens image quality when you employ the very smallest apertures, so they're best avoided.

Diffraction is caused by image-forming light striking the edges of the diaphragm blades and scattering. This softens overall image quality. At larger apertures, the amount of scattered light is proportionally quite small, but as the aperture is stopped down (reduced in size) the percentage of diffracted light increases. Therefore, despite depth-of-field increasing, image sharpness actually decreases. Diffraction affects lenses differently, so the best way to see how your lenses perform is to do your own tests. Take a series of shots of the same scene at different apertures and then enlarge a small portion of each and compare. Typically an aperture of around f/8 or f/11 will be the best quality and relatively diffraction-free. However, if this doesn't provide sufficient depth-of-field for the scene, don't panic if you have to select a slightly smaller aperture. An aperture in the region of f/13 or f/16 is normally a good compromise, generating extensive depth-of-field while keeping diffraction under control.

While you will normally wish to avoid diffraction, it can be useful on occasions. Diffraction will cause a point source of light to become a star burst shape. So if you are photographing the sun, and wish to add interest to the shot by capturing a star burst effect, set your aperture to f/22.



THINKSTOCK

MASTER SHUTTER SPEEDS

PRO ROSS HODDINOTT EXPLAINS HOW CHOOSING THE RIGHT SHUTTER SPEED DETERMINES NOT ONLY THE EXPOSURE, BUT HOW MOTION IS RECORDED

SHUTTER SPEED IS the second most important factor to control exposure and it has a reciprocal relationship with aperture. It refers to the time the camera's shutter remains open during exposure. This can be very brief – as fast as 1/8000sec on some digital SLRs; but it can also be very slow, up to 30 seconds – or as long as your battery will last while using the Bulb mode – several minutes or even hours is possible.

The exact length of exposures depend on the available light, the aperture and ISO selected. In aperture-priority mode, the camera automatically selects the shutter speed, choosing a length it believes will go with your choice of aperture to create a perfectly-exposed result. In manual mode, you need to dial in the shutter speed yourself.

For landscape photography, you will typically want to keep the ISO to a low value to maximise image quality – in the region of ISO 50-200. You will also often be using small apertures to generate a generous depth-of-field. As a result, shutter speeds can be quite lengthy – particularly when shooting in low light or during the golden hours. At slower shutter speeds, the risk of camera shake is high when shooting handheld, so use a tripod whenever possible.

During longer exposures you can blur subject movement to create the impression of motion. Although many people consider landscapes a static subject, in reality they are often full of movement – for example, clouds, water and foliage. How you decide to record subject motion can have a significant effect on the look of your landscapes. A fast shutter – upwards of 1/500sec – will freeze most movement, suspending it perfectly in time. Slow shutter speeds, in the region of 1/2sec or longer, will begin to blur motion, potentially making your images look less static and more interesting.

While the available natural light will greatly dictate how long your shutter speed needs to be, you can also manipulate it creatively. For example, if you require a fast shutter speed to freeze movement – maybe to capture large waves crashing against coastal cliffs – you can generate one by increasing ISO sensitivity or opting for a wider aperture. If you wish to select a longer exposure length, you can do so using Neutral Density (ND) filters (see panel below).

ALL IMAGES: ROSS HODDINOTT



THE BENEFITS OF USING A SOLID ND FILTER

Solid Neutral Density (ND) filters are designed to absorb light in order to artificially lengthen shutter speeds for creative effect. They affect the entire scene and shouldn't be confused with graduated ND filters (page 58). Solid NDs are an essential tool among both professional and enthusiast photographers alike. You can buy circular, screw-in ND filters or, if you prefer, square slot-in versions compatible with a filter system. The darker the filter, the greater its density and the more light it absorbs. They are commonly available in one-stop, two-stop, three-stop and four-stop densities – although more extreme NDs are also available (page 59). To give you an example of their effect, if the original unfiltered shutter speed is 1/4sec, exposure time will be prolonged to 1/2sec using a one-stop ND; one second with a two-stop ND; two seconds with a three-stop ND; or four seconds with a four-stop solid ND attached. A three- or four-stop density can prove particularly useful, causing a significant exposure shift and altering the look and feel of the image.



1 Having found a nice composition to capture the incoming tide, I firmly pushed my tripod into the sand for stability. An aperture of f/14 generated good depth-of-field, and I chose ISO 100. The corresponding shutter speed was 1/125sec. I released the shutter as the tide rushed over the rocks – the result is rather messy.



2 To create a better sense of motion, I attached a solid ND filter. I opted for a Lee Filters Little Stopper – equivalent to six stops of light. This increases the exposure to one second. This is often a nice length for capturing water motion, creating an intentional level of movement, while still retaining interest and texture.



3 I wanted to create an even more extreme effect to reduce the water to a milky blur. I replaced the Little Stopper with a Big Stopper – an extreme ten-stop ND filter. Doing so extended the shutter speed to a lengthy 15 seconds. This created an ethereal, creative result, which in this instance, produced my favourite shot.

JARGON BUSTER *What's a 'stop'?*

Changes in shutter speed, and aperture, are normally referred to in 'stops'. A 'stop' is a doubling or halving of an exposure value – or, in other words, the amount of light reaching the sensor. For example, if you adjust a shutter speed from 1/15sec to 1/30sec, you are halving exposure – making it a stop faster by reducing the amount of light reaching the sensor by half. Alternatively, if you selected a speed of 1/8sec instead, you would double the amount of light striking the sensor, increasing exposure by one stop. Doubling or halving the ISO is also the equivalent of a stop. Digital SLRs allow exposure time to be adjusted in one-stop, 1/2-stop and 1/3-stop increments for added precision.



BLOWING IN THE WIND
A slower shutter speed records movement, transforming hard-edged subjects, such as the grass, into soft, painterly areas of interest.

Exposure: Two seconds at f/13 (ISO 100)



LET'S FOCUS ON LANDSCAPES

LANDSCAPE PHOTOGRAPHERS OFTEN DESIRE FRONT-TO-BACK SHARPNESS. CAREFUL FOCUSING TECHNIQUE IS ESSENTIAL, AS ROSS HODDINOTT EXPLAINS

WIDE-ANGLE LENSES possess an inherently large depth-of-field. Therefore, you might assume using one together with a small aperture is all you need to do to capture landscapes that are sharp throughout. You can't be lazy with focusing, though; if you focus poorly, you will waste depth-of-field unnecessarily.

A lens can only focus precisely on one plane, so sharpness naturally and gradually decreases either side of this. Depth-of-field is the acceptable level of focus extending either side of the point of focus. It extends approximately one-third in front of this point and two-thirds beyond it. Therefore, if you simply focus on, or close to, infinity, you will waste the depth-of-field falling beyond your focal point. Equally, if you focus too near into the scene, you won't get the full benefit of the depth-of-field available to you. A popular method among landscape photographers for helping maximise depth-of-field is to focus approximately one-third of the way into the scene. While this might not be the most scientific way of maximising depth-of-field, it is actually a fairly effective method. However, there is a better way...

There is a formula known as the hyperfocal length, designed to provide the distance that will maximise depth-of-field for any given aperture and focal length combination. Using the hyperfocal distance is highly accurate, which leaves nothing to chance. There are downloadable charts and also phone apps that do all the hard work for you – all you need to do is input your chosen focal length and f/stop, and it will provide the distance you should focus on.

Many landscape photographers prefer focusing manually. However, in reality it doesn't matter how you achieve focus – as long as you know where to focus. Providing you know this, it doesn't matter if you achieve focus using single point AF, manual, or via LiveView – much will depend on personal preference and your eyesight.



1 FOCUSING TO A THIRD Whereabouts you focus within a scene is important when photographing far-reaching views. Do not simply set your lens to infinity and think that will do – you will waste all the depth-of-field falling in front of your point of focus, resulting in foreground objects looking soft. Instead, a fairly reliable method is to focus one-third of the way into the frame. This should help maximise depth-of-field and keep everything within the frame acceptably sharp.

FRONT-TO-BACK SHARPNESS
When presented with a far-reaching view such as this, don't leave focusing to chance if front-to-back sharpness is the aim.

Exposure: Five seconds at f/16 (ISO 100)



2 CALCULATE DEPTH-OF-FIELD While focusing one-third of the way into the frame is fairly reliable, a far more precise technique is focusing on the hyperfocal distance. By using an app or chart, you can calculate the exact distance that maximises depth-of-field for any focal length and aperture combination. In this instance, the lens was set at 17mm and f/11. Various apps are available, but DOFMaster is a favourite. Remember, sensor size will affect the calculation.



3 USE HYPERFOCAL DISTANCE In this instance, the settings produced a hyperfocal distance of 0.87m. The lens is focused 1m away as it is normally best to round-up distances. If there is a detailed depth-of-field scale on the lens barrel, you can manually set the distance. If not, focus on an object you estimate is that distance away – a small degree of 'guestimation' won't hurt. The subsequent image is sharper in the immediate foreground, yet still retains focus in the distance view.

JARGON BUSTER *Focus stacking*

Focus stacking is becoming an increasingly popular option among the landscape fraternity. It's used when you can't generate sufficient front-to-back sharpness through your selected aperture choice. It's an image-blending technique where you take a sequence of frames, each focused at a different point within the scene, and then merge them together in Photoshop or another photo-editing software. The final result is an image boasting far greater depth-of-field than would have been possible using one shot at the same aperture. For it to work, the camera needs to remain in a fixed position on a sturdy tripod. A sequence of four or five images normally creates good results.



ALL IMAGES: ROSS HODDINOTT

USING FILTERS IN LANDSCAPE PHOTOGRAPHY

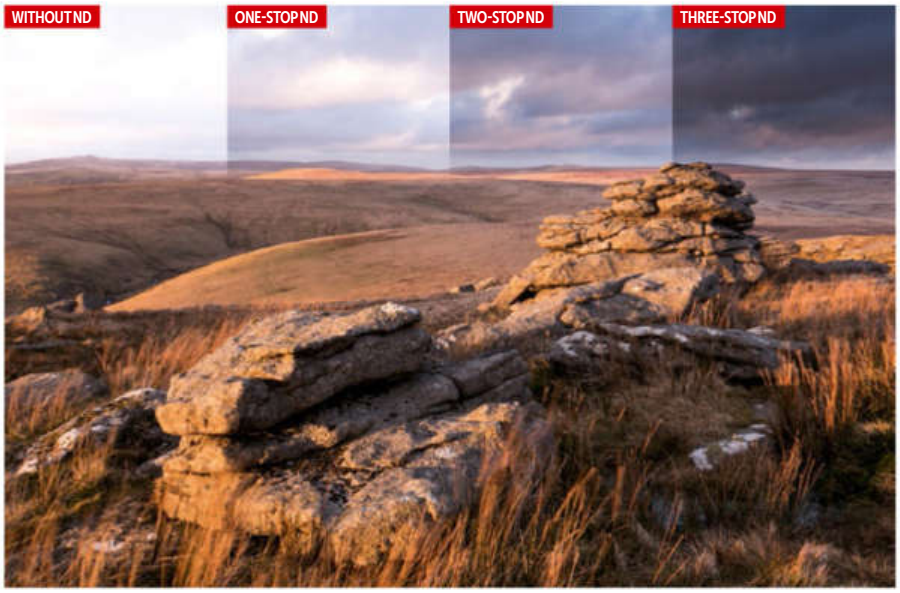
WHEN SHOOTING STUNNING LANDSCAPES, THERE ARE A HANDFUL OF FILTERS THAT YOU SHOULD NEVER BE WITHOUT. GRADUATED NDS, POLARISERS AND EXTREME ND FILTERS ALL REMAIN ESSENTIAL TOOLS FOR THE JOB, EVEN TODAY

YOU MAY WELL be wondering why you might still need physical filters today, when photo-editing software offers seemingly endless possibilities to tweak, adjust and manipulate images to your heart's content. However, while technology has made certain filter types redundant, others remain absolutely essential for landscape photography. Different filters have different uses. They can be either corrective or creative, but they can also be mixed to do both jobs – so don't be afraid to combine filters to achieve the right results.

Most landscape enthusiasts wouldn't venture out into the great outdoors without a polarising filter, plus a handful of neutral density grads and a solid ND filter. Each filter is capable of transforming your shots and their effect can't be easily replicated using software – quite simply you need to filter the scene and light at the time of capture.

Filter use is a genuine skill. Filters should enhance a scene and the results should, ideally, look natural and believable. Only use filters if they will genuinely improve your shot – too many photographers use them inappropriately or simply out of habit, so beware of this. The true skill is not in just knowing how to use filters successfully, but when to use them. When applied correctly, the right filtration can turn a good shot into a great one. So, you can see, it's really is no coincidence that virtually all landscape professionals continue to rely on filters.

So you can learn more about the key filter types on offer, we've looked at each type in great depth to explain their purpose and how you can get the best from them...



GRADUATED NEUTRAL DENSITY FILTERS

One of the biggest challenges facing landscape photographers is how to deal with the contrast between bright skies and darker foregrounds. Typically, the sky is several stops brighter than the landscape – and the level of contrast can grow greater around sunrise and sunset. If the difference in brightness exceeds your camera's dynamic range you will find that the sky will look bright and overexposed, or the foreground dark and underexposed. In order to capture a landscape that is correctly exposed throughout, you can do one of two things. You could take a couple of exposures – one exposed for the sky, the other the land – and then merge them during processing. Alternatively, you can use a graduated ND filter to balance the light.

ND grads are the best in-camera solution and the preferred choice for most landscape photographers. They are half-clear, half-coated, with a transitional zone between. By aligning the feathered area with the horizon, you can hold back the sky, while giving the foreground sufficient exposure.

They are typically rectangular filters, designed for use with a filter system. You can easily slide them up and down into position. Both hard- and soft-edged versions are available. Hard-edged grads are ideal for scenes with a straight horizon. However, when shooting a scene with an uneven horizon – such as one featuring mountains, hills or buildings – it is best to use a soft grad, so the coated area doesn't overlap the land abruptly. They are available in different densities, usually one-, two- and three-stop versions. Arguably, a two-stop hard ND grad is the most useful and versatile.

Above: GRADUATED ND COMPARISON
This shows the effect of ND grads with different strengths. Without a graduated ND, the sky is overexposed. A one-stop ND retains detail in the sky, but looks too light. A two-stop balances the light and creates a natural result. A three-stop ND grad is too strong, making the sky look too dark.





POLARISING FILTERS

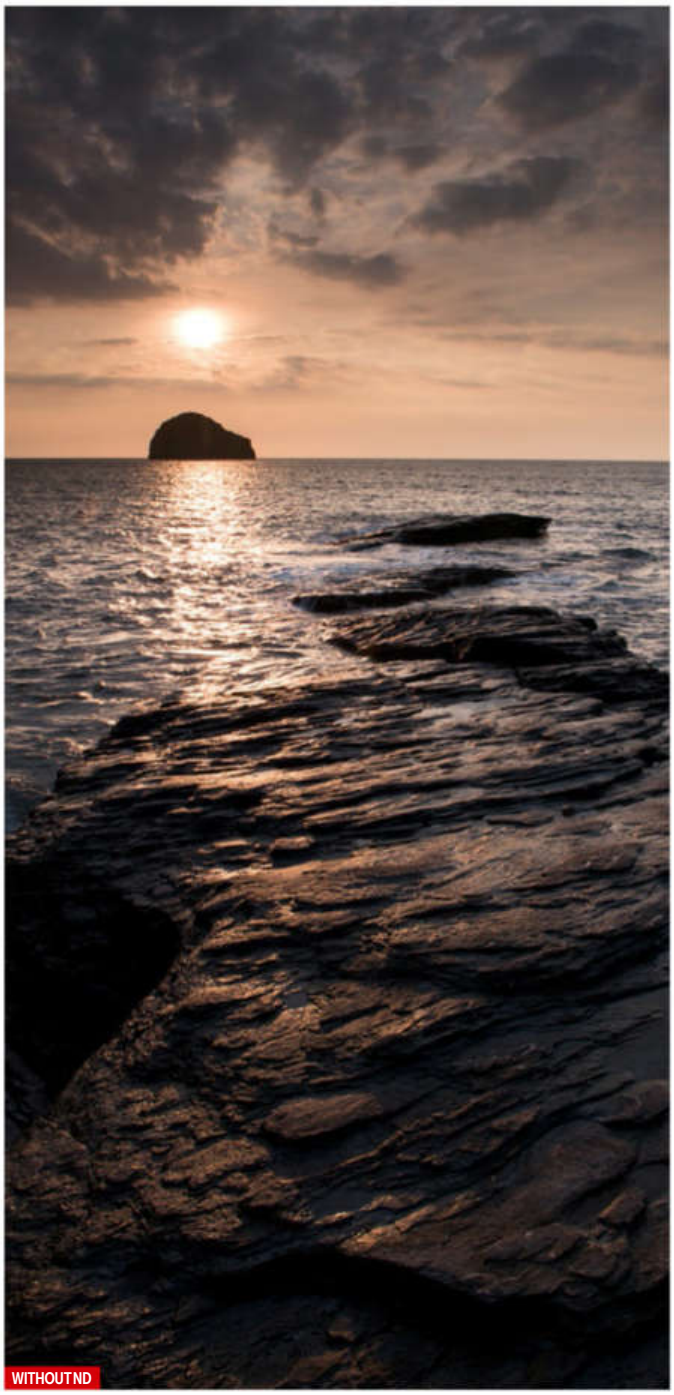
A circular polariser is another must-have filter for landscapes. By reducing glare and reflections, the filter restores saturation and is well known for its ability to darken blue skies, making clouds stand out. They are useful when shooting woodland interiors too, giving leaves and foliage added vibrancy.

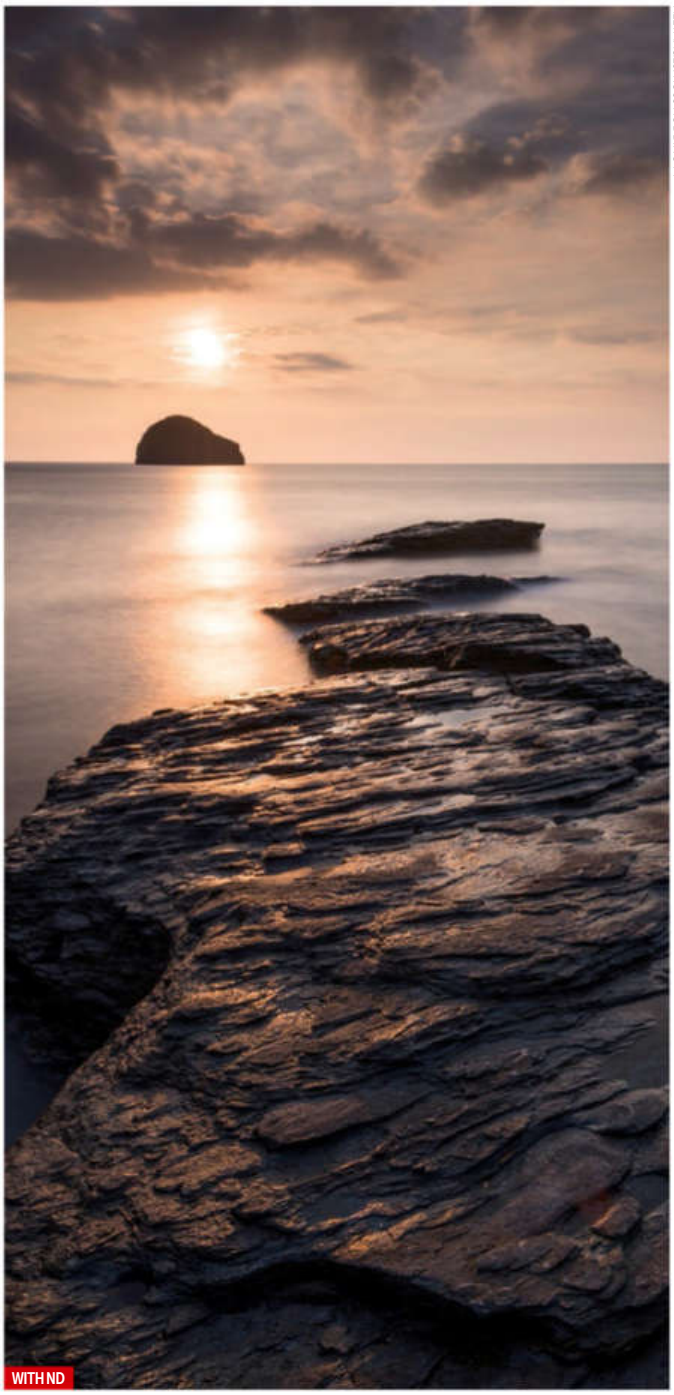
They are commonly a circular, screw-in design, constructed from a thin piece of polarising foil, sandwiched between two pieces of glass. The front of the mount rotates, allowing you to adjust the amount of polarised light passing through. By using the viewfinder, or LiveView, you can see reflections come and go and the intensity of colours change as you rotate the filter.

The strength of a polariser varies depending on your angle in relation to the sun. The most pronounced effect is when you use the filter at 90° to the sun – known as Brewster's angle. The filter will have little effect on hazy skies and some surfaces, like metallic objects, remain unaffected.

We wouldn't recommend keeping the filter on at all times. A polariser absorbs up to two stops of light, lengthening the exposure, which is not always desirable, so only attach one if it is called for. Also, be careful not to over-polarise scenes, making blue skies too dark, and be aware of uneven polarisation as well – when the sky is darker in some areas than others. Ultra wide-angle lenses are particularly prone to this. To alleviate the issue, reduce the level of polarisation or use a longer focal length.

Above: POLARISER COMPARISON
These images were taken within minutes of each other, but are very different. The first was taken without filtration, the second using a polarising filter. The colours of the sky and water are deeper and the shot is more vibrant. A Lee Filters Landscape Polariser was used, which has a warming effect.





ALL IMAGES: ROSS HODDINOTT

EXTREME ND FILTERS

Extreme NDs are similar to normal solid ND filters, just their density and effect are more extreme. They've become a must-have accessory for landscape photographers, and are hugely popular today among creative landscape photographers who like the impression of movement in their shots.

The most common density is one absorbing ten stops of light – the Lee Filters Big Stopper is particularly popular. However, you can buy filters of various strength, from six to 13 stops. Screw-in and slot-in versions are available – there are also vari-strength NDs (or faders), which allow you to adjust the filter's strength within a given range.

Extreme NDs can produce wonderful effects. Due to their density, they can generate long exposure times of several seconds or even minutes. This can produce surreal results, with scudding cloud recording like brush strokes and moving water rendered smooth and glassy. It's a highly creative filter type with the potential to transform scenes and create atmosphere. They are also a lot of fun to use!

Focus and compose your shots prior to attaching the filter, as the viewfinder image will be dark once the filter is in place. Alternatively, switch to LiveView, as most cameras will compensate for the filter's strength and provide a bright enough preview. Extreme ND filters tend to fool TTL metering systems, so you may find you have to switch to manual exposure mode and calculate exposure length manually. If exposure exceeds 30 seconds, switch to Bulb mode and, using a remote release, time the exposure manually. To help you achieve the correct exposure, most extreme ND filters are supplied with a chart, listing before and after exposure values. There are also apps, such as NDCalc, which allow you to input your original, unfiltered shutter speed and filter density in order to calculate the exposure length you need.

JARGON BUSTER *Bulb mode*

When using extreme NDs, or in low light, you will sometimes need to select an exposure exceeding your camera's maximum automatic exposure length, which is typically 30 seconds. To do this, set your camera to Bulb or B mode. Doing so allows you to lock the shutter open for whatever duration you want, using either a remote release or wireless device. Many cameras have an automatic counter on the LCD to help you time your manual exposure accurately too – alternatively use a watch or the clock/timer on your mobile phone.

Above: EXTREME ND COMPARISON
Extreme NDs can add interest, atmosphere and mood to otherwise ordinary scenes. They are good 'grey day' filters, working well in overcast light. They are fun to use and capable of creating great results – we recommend you buy one! Like all filters, they need to be used appropriately, so don't attach one for the sake it – be sure it improves the end image.



PHOTO SKILLS

WIDEN YOUR POTENTIAL

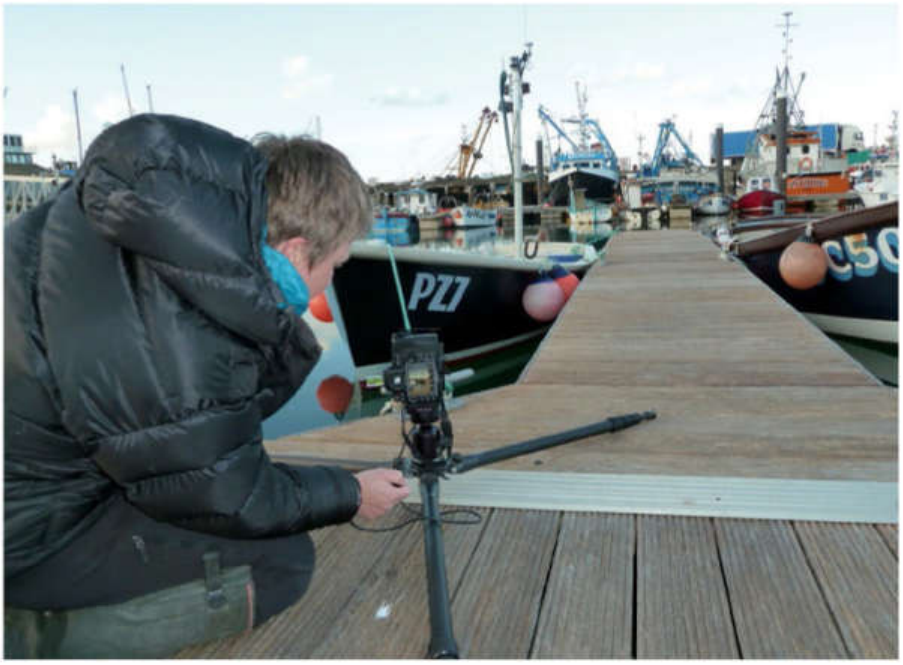
PRO PHOTOGRAPHER HELEN DIXON SHARES HER ADVICE FOR HOW TO SHOOT LANDSCAPES WIDE OPEN

CAMERA: NIKON D810 / **LENS:** NIKKOR AF-S 24-70MM F/2.8G

LANDSCAPE PHOTOGRAPHERS generally want to capture every single detail in a scene, which is why we can get so pedantic about apertures and hyperfocal distance. So why would we even consider shooting wide open? Surely that's a technique best left to the portrait photographers – landscapes are always better represented when sharp, front to back, right? Wrong! It might be the less travelled road, but some photographers might argue it leads to more creative destinations and challenges you to see a wider potential in your chosen landscape. Surprisingly, shooting with a wide open aperture is a refreshing way to work. The approach is much the same as if you were capturing the scene with a small aperture, only you don't have to worry about every little detail being in focus. It means you can move a lot closer to your foreground subject without dreading your background will be out of focus.

THE KIT YOU need is no different to shooting standard landscapes: a decent camera; a tripod, ideally with a removable centre column for low-level shooting; and a wide-angle lens. It's the perfect choice to allow you to get really close to your foreground subject while maintaining a field-of-view that can include enough of the background. The closer you get to your foreground subject, the shallower the depth-of-field will be, so smaller objects often work better than larger ones for this type of landscape. It's important to also remember that the longer the focal length: the narrower the field-of-view, so while it can be tempting to isolate a foreground subject you are likely to lose most of your background.

For this shoot I headed to the UK's Cornish coast as it has a vast array of suitable subjects for foreground subjects – items that I'd usually disregard for being too small for foreground matter for my usual coastal landscapes. I first concentrated on a port with moored boats as the piers, ropes and lines of the boats could all be good elements for strong compositions.



PICKING YOUR SUBJECT: When considering your choices for what to shoot, think about your background: you'll need to keep some interest throughout the scene to maintain a strong composition. Although the area will be out of focus, what you see should complement your foreground subject and complete the overall composition. Look for details to use as your foreground that complement the scene and can be given context by the background.

SELECT YOUR EXPOSURE: Set your camera to aperture-priority mode or manual mode, whichever you prefer. Most lenses do not perform their best at their widest aperture; introducing chromatic aberration and lens vignetting. Post-production can minimise, but not eliminate, these side-effects, so you might find that you achieve better image quality by closing down the aperture a stop from its maximum to improve sharpness, as well as focus throughout the foreground.



TECHNIQUE: *Master your focusing for top-notch images*



Your focusing technique has to be just as precise, if not more so, than if you were trying to capture a scene sharp front to back. As you're working with limited depth-of-field, your focusing has to be spot-on. Although you will probably have a fast shutter speed when shooting wide open, it might be easier to achieve optimal focus using a tripod and keeping the camera static to stop any movement from your point of focus. Even a couple of millimetres will affect the sharpness and leave you with a shot that's soft throughout. Use single-point AF or, better still, manual focus.







COMPOSING: How you compose your image and link the foreground with the background, as well as your shooting distance, are crucial to the success of shooting wide open. Look for leading lines to connect elements and control the viewers' gaze through the frame (A). Try to balance the composition as a whole and leave some distance in front of your foreground subject (B).



GET ON BOARD WITH WIDE APERTURES
At 24mm I could focus on the anchor pin while using the blurred lines of the jetty and ropes to control the viewers' eyes.

Exposure: 1/60sec at f/2.8 (ISO 64)



FOOTPRINTS: You cannot shoot on the beach and not try to capture footprints in the sand; their simple composition works well when shooting wide open, too. Find an area that has been walked on moments after a receded tide to eliminate messy and multiple lines of prints. Watch out for the lighting: avoid overhead sun and wait until it's low in the sky to give the footprints depth and contrast. Get low to the ground and fill the frame with the first footprint. Having the prints lead towards a focal point, like a person, in the distance gives the scene context (A).





TECHNIQUE: *Point of focus*



It might be tempting to focus on a subject in the distance, rather than the foreground, but this can look messy and distracting. Focus on a point that is no more than a third of the way into the frame to capture a gradual softness in the foreground as well as the background to engage the eye in the frame. Focusing on a subject too close to the front of the frame, or too far into the distance, can result in an unbalanced composition. By focusing on a distant subject, the foreground will be distracting and too much of the background will be in focus for it to look appealing.

"FOCUS ON A POINT NO MORE THAN A THIRD OF THE WAY INTO THE FRAME TO CAPTURE A GRADUAL SOFTNESS IN THE FOREGROUND"



VIEWPOINT AND FOCUSING DISTANCE: Where possible, position your camera eye level with your foreground for a more comfortable viewpoint and vary your distance from your focal point to assess the effect it has on your background. Even when using the same aperture, the results can be significantly different. By taking a wider view at f/2.8 (C), the background is soft but overpowers the image; whereas getting closer to the lamp (D) compresses the depth-of-field and makes it the main focus of the image.





FOOTPRINTS IN THE SAND
By changing my shooting direction so that the sun was 45° to the footprints, it created shadows that helped them stand out.

Exposure: 1/1000sec at f/3.5 (ISO 100)

PHOTO SKILLS

WILDFLOWER SILHOUETTES

ROSS HODDINOTT REVEALS HOW THE DAY'S LAST LIGHT IS A PERFECT BACKDROP FOR STRIKING FLORAL SHOTS

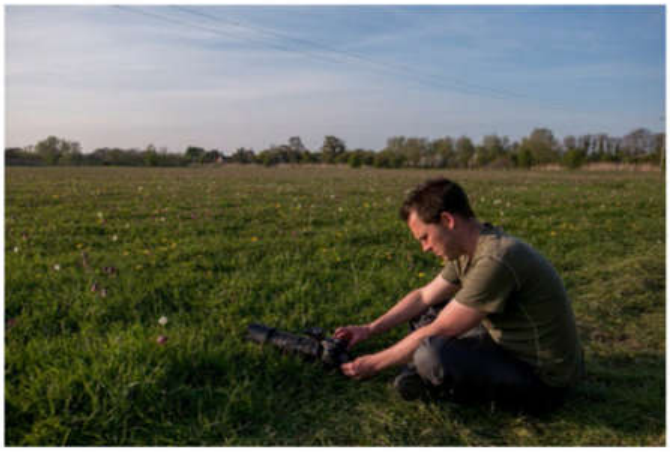
CAMERA: NIKON D750 / **LENSES:** NIKKOR AF-S 200MM MICRO F/4 ED & AF-S 80-400MM F/4.5-5.6G ED

THE 'GOLDEN HOURS' are well known among scenic photographers for their drama and mood, but landscapes are not the only subject that will benefit from being shot in early morning or late evening light. Soft, warm sunlight will help highlight the delicacy, shape and beauty of flowers – wild or cultivated. Therefore, if you're heading to local gardens, farmlands or forest with your camera this summer, arrive early or stay late if you wish to capture images with genuine atmosphere.

Morning or evening sunlight possesses wonderful and photogenic natural warmth, which suits subjects like flora. Backlighting will highlight the translucency of petals and leaves, or you could even go one step further and silhouette your subject to highlight its shape and form.

Low viewpoints often suit flowers – not only do they look more natural, but a low perspective will often help your subject stand out against its background. Therefore, be prepared to get down and dirty to achieve the most flattering, attractive results. A beanbag can often prove the most practical form of support, while a digital SLR with a vari-angle or tilting LCD can prove advantageous when composing and focusing images at awkward angles.





1 SET-UP EARLY Arrive early to locate pristine subjects growing in suitable positions. By doing so, you can ensure you are set up and ready to shoot when the light is good – not rushing around frantically searching for the perfect specimen. Look for flowers in prime condition that you can easily separate from their surroundings.



2 LIGHTING Consider the sun's position in relation to your subject. When backlighting or silhouetting a flower, look for subjects you can align with the setting sun, growing in a position with a clear view to the horizon. While low-contrast, overcast light is good for capturing detail and colour, it lacks the drama of low, directional light.



3 SETTINGS A shallow depth-of-field will help you to isolate your subject, throwing surrounding foliage out of focus – try using a large aperture, in the region of f/4. Longer focal lengths also help – the long end of a telezoom will often prove ideal. A right-angle finder, or articulated LCD, will make composing low-level shots much easier.



4 WAIT FOR THE LIGHT The best things come to those who wait – as is often the case for photography. Wait until the sun is low in the sky – gentle, soft light will highlight your subject's design. By shooting towards the light and backlighting your subject, you can capture dramatic wildflower images. A lens hood will help prevent flare.

COMMON PROBLEMS AND HOW TO AVOID THEM...



Distracting backgrounds

Consider the backdrop. Grasses, twigs, or other flowers can be distracting. Alter your shooting position, use a shallow depth-of-field, or gently flatten grasses. Don't pick or cut other flowers, though.



Pristine subjects

For silhouettes, it becomes less of an issue but, when capturing detail, it is essential your subject is in peak condition – in close-up, even the smallest imperfection will be obvious.



Plain background

Bright white skies rarely make good backgrounds. Avoid them in favour of clean, natural backgrounds – for example, diffused foliage, a deep blue sky, or a vibrant morning or evening sky.



Too much foreground

Keep compositions simple and balanced. Placing your subject on an intersecting third often works best. Avoid including too much foreground – it can dominate your composition.



LATE BLOOMER
Colour in the sky at sunrise and sunset will make for an attractive backdrop. Meter for the brighter sky using spot metering or use exposure compensation in order to throw your subject into silhouette.

Exposure: 1/400sec at f/4.5 (ISO 800)



PHOTO SKILLS

SHOOT A TIME STACK

MAKE YOUR SKIES STUN BY CREATING A MIND-BLOWING LANDSCAPE USING A TIME-LAPSE TECHNIQUE. JORDAN BUTTERS SHOWS YOU HOW TO SHOOT A CLOUD SEQUENCE FOR IMPACTFUL PICTURES

CAMERA: NIKON D800 / **LENS:** NIKKOR AF-S 24-70MM F/2.8G

I CAME ACROSS THIS technique after seeing the fantastic work of 500px member Matt Molloy (500px.com/mattmolloy). The methods involved in the capture side of things are identical to if you were shooting a time-lapse video sequence, however the key difference is that rather than compiling the shots into a video, you overlay the exposures into a single image during processing using a 'Lighten' blend mode (see page 74 for details). This has the effect of smearing clouds into unusual and eye-catching patterns. It's actually the exact same processing technique used to compile star-trail images!

A windy day will allow you to shoot more movement in a shorter period of time – I shot this tutorial on a relatively still day and, as such, it took around 20 minutes and 600 exposures to compile the final image.

EQUIPMENT: There are a few pieces of kit that you'll need. A wide-angle lens is preferable – ideally a 10-20mm on an APS-C sensor or 16-35mm on full-frame – or else a standard zoom will do. You'll need a good tripod, preferably with a hook to weigh it down if it's windy. An intervalometer is essential and automates the process, triggering your camera every few seconds without you having to press the shutter – these can be had for around $30-$45 on eBay or Amazon. Finally, a set of ND grad filters will allow you to balance your exposures.



1 CHOOSE A LOCATION Wide vistas work, as do scenes with structures such as pylons, buildings or turbines – these create contrast for the moving clouds. The technique works best when the sun is behind you, or to the side during the day, or in front of you at sunrise or sunset. Check the wind direction too – the effect looks best when clouds are moving towards or away from you, rather than across the frame.





2 FIND THE RIGHT SETTINGS With your camera on a tripod, compose to include plenty of sky. Select aperture-priority mode and a mid-aperture. Set your focus point and then lock your lens to manual focus to stop the focus from changing. In order to fit more shots onto your memory card, and speed up processing, switch your camera to shoot fine JPEG rather than Raw. Take a test shot and check the histogram.





3 FINE TUNE EXPOSURE You should expose for the brightest part of the scene – usually the highlights in the clouds. This may leave the foreground underexposed, so fit an ND grad filter if necessary to obtain a balanced exposure. I've weighted my histogram to the left to prevent blowing out the clouds. As we'll be dealing with a high number of files we want to get as much right in camera as possible.



4 SWITCH TO MANUAL We want no fluctuation in exposure or White Balance between exposures, so we now need to set everything to manual. Select manual exposure mode and, using your test shot as reference, dial the appropriate exposure settings. Set the White Balance to suit the scene – Daylight WB works well for me. If it's a windy day, it's a good idea to hang your camera bag from your tripod to stop it moving about.



STACKED IN YOUR FAVOUR
Turn the page to find out how to edit and compile your time stack to achieve an effect like this.

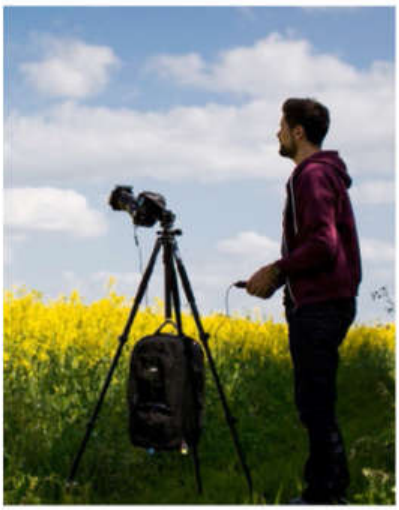
Exposure: 600 exposures of 1/320sec at f/11 (ISO 100)





5 SET YOUR INTERVALS Your choice of interval depends on the level of cloud movement and the look you want in your final shot. Fast-moving clouds required a shorter interval between shots than slow ones. A larger interval will create a 'stuttered' effect in the clouds when you compile the time stack, whereas a short interval will create a smoother look. I've opted for a two-second interval between shots.

6 START SHOOTING Press start on your intervalometer and you're away. The number of shots you need depends on the level of cloud movement, but it's best to shoot too many rather than not enough – you don't have to use them all when it comes to compiling it. Watch the sky as you're shooting to gain a measure of how quickly the clouds pass and their direction – it will help you envisage how the final image will look once compiled.



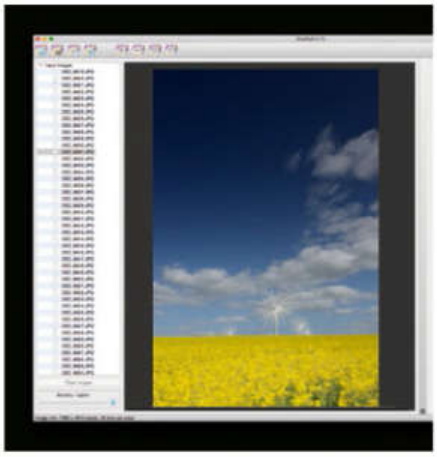
Edit your time stack

WITH YOUR TIME LAPSE TAKEN, IT'S TIME TO BLEND THE RESULTS TOGETHER INTO A SINGLE, UNIQUE TIME-STACK IMAGE. HERE'S HOW TO DO IT...

THERE ARE TWO ways to compile your time-lapse images into a single file – the quick and easy way, or the hard, lengthy way. The hard way involves cutting and pasting each and every one of your exposures as a new layer onto the previous and setting that layer's Blend Mode to Lighten. The easy way involves simply downloading a clever (and free) piece of software called StarStax (http://bit.do/DSLR_starstax) and letting it do all the hard work for you – I'm going to go with the latter.

Once stacked, you can chose to leave it at that, however the resulting image usually ends up looking a bit flat, as the multiple exposures even out the lighting. However, a few select tweaks to contrast and to enhance the sky are all that's needed for a cracking final image.





1 STACK THE IMAGES Download your images and open up the StarStax app. Click on the ***Open images...*** button in the top left and select all of the images that you wish to stack. Make sure the Blending Mode is set to ***Lighten*** and press the ***Start Processing*** button. It'll take a while to process – once done make sure you press ***Save As...*** to save the results.



2 FIND A NEW FOREGROUND Open the stacked JPEG in Photoshop. There has been a lot of movement recorded in the foreground in my image, which has turned it into a yellow mess. I'm going to replace the foreground with one from a single exposure to improve it. Search through your shots and find a foreground image that you're happy with.



3 CHANGE THE FOREGROUND On your chosen foreground image, go to ***Select>All*** and then ***Edit>Copy***. Back in your stacked image, go to ***Edit>Paste***. Then, go to ***Layer>Layer Mask> Hide All***. Use the ***Brush tool***, with your colour set to ***Black***, and a soft-edged brush, to reveal your foreground on your image, taking care where it meets the sky.



4 ADD CONTRAST Foreground improved, the image is still flat – click on ***Add new fill or adjustment layer*** in the Layers palette and select ***Curves***. In the Adjustments palette, create a subtle S-curve – darkening the shadows and brightening the highlights to add contrast. Be careful not to push the highlights too far and to lose cloud detail.



5 ADD MORE CONTRAST Create a second Curves adjustment layer, as before – this time focusing on just the sky. Create a second S-curve in the Adjustments palette to boost contrast in the sky. Once done, select the ***Brush tool*** with ***Black*** set as your Foreground Color and brush over the foreground so that the increase in contrast only affects the sky.



6 BOOST CLARITY An optional step is to boost clarity in the clouds. Hold down the ***alt*** key and go to ***Layer>Merge Visible***. Then, go to ***Filter> Sharpen>Unsharp Mask***. Increase the ***Amount*** to ***75%*** and ***Radius*** to ***90 Pixels*** and click ***OK***. Next, click on ***Add Layer Mask*** in the layers palette and use your ***Brush tool***, as before, to mask the effect from all but the sky.

WELL STACKED!
You may find that the increase in contrast and clarity over-saturates the sky. If so, simply go to ***Image>Adjustments>Hue/ Saturation*** and reduce the saturation.



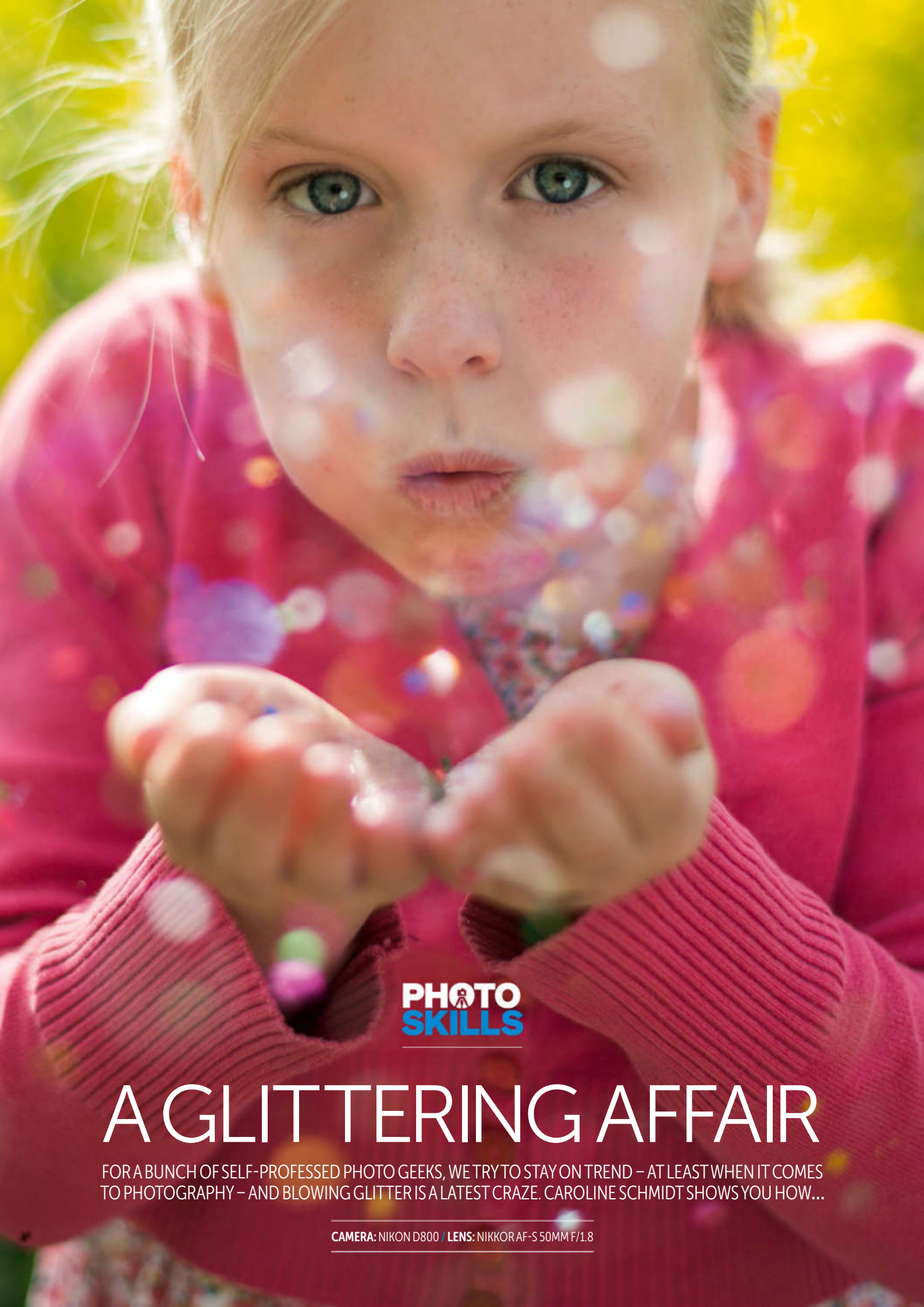


PHOTO SKILLS

A GLITTERING AFFAIR

FOR A BUNCH OF SELF-PROFESSED PHOTO GEEKS, WE TRY TO STAY ON TREND – AT LEAST WHEN IT COMES TO PHOTOGRAPHY – AND BLOWING GLITTER IS A LATEST CRAZE. CAROLINE SCHMIDT SHOWS YOU HOW...

CAMERA: NIKON D800 / **LENS:** NIKKOR AF-S 50MM F/1.8

DO AN ONLINE search on Google or Pinterest for 'blowing glitter' and you'll be inundated with portraits of this trend. It can be done using glitter, sparkling dust, small sequins, blossom or confetti depending on the style of shot you want. You need a shallow depth-of-field, so choose a fast lens like a 50mm f/1.8; a standard zoom can also work at its widest aperture though get as close as you can to the subject. If you're concerned about a glitter-covered camera, use a fast telephoto lens to put some distance between you. The closer the glitter or sequins get to the lens, the bigger the bokeh and the more magical the image. It's a beautiful effect that gives dynamic life to a portrait.



1 LIGHTING: Different lighting angles produce different effects, but you should follow the basics of portrait lighting and avoid harsh, direct sunlight – a diffuser solves this problem easily. Side- and back-lighting will make glitter sparkle, and highlight translucent confetti – use a reflector to gently fill in shadows on your subject. Soft, front lighting, as I've used here, creates an even exposure.



2 DIAL IN YOUR SETTINGS: Set your camera to aperture-priority mode and dial in a wide aperture of f/3.5 or faster: the wider the better, in my opinion. You will want a shutter speed of at least 1/800sec, but again the faster the better, so increase your ISO until you find a shutter speed that works for you. You'll have a better chance of capturing 'the shot' if you set your camera to shoot in continuous high-speed bursts, too.







3 CHOOSE YOUR FOCUSING MODE: You can use autofocus and hope that your camera locks on to the fine grains of glitter, but it will be hit or miss and you'll find yourself going through a lot of glitter at the best of times! Instead, use single-point AF on your point of focus (see step 4), or pre-focus on the area where you think the glitter will float and ask your subject to remain still. If you're using a wide aperture, focus carefully and be aware that your plane of focus will be very thin.



4 WHERE TO FOCUS: There are choices of focus for this type of shot: your subject's eyes (A) or the glitter (B). You choice is largely dependent on personal style as well as your model. By focusing on the subject's eyes, all the glitter will be out of focus and create dazzling bokeh. If you focus on the finger tips or the pool of glitter in the palms of their hands, you will blur the subject's face as well as glitter in the foreground, giving you only a slither of particles that are sharp.



5 POSING: If your subject squints or pulls a distracting face when they blow (it's very easy to do so) ask them to look down at their hands to avoid their expression spoiling your shot. Alternatively compose your portrait to crop their face below their eyes and focus on the glitter in their hands (C). Ask them to cup their hand/s, but keep their fingers as straight as possible, to drop their shoulders rather than hunch, and to draw their hands close to their mouth so they only need to blow softly.



STARS IN YOUR EYES
While iridescent fine glitter can look beautiful in the right light, sequins work well no matter the lighting conditions.

Exposure: 1/8000sec at f/1.4 (ISO 320)

ONE BIG HAPPY FAMILY

GONE ARE THE DAYS OF HEADING TO A HIGH STREET STUDIO FOR THE ANNUAL TWEE FAMILY PORTRAIT POSED IN 'SUNDAY BEST'. TODAY'S PORTRAITS EMBRACE THE CHAOS, CONNECTIONS AND, MOST IMPORTANTLY, THE FUN OF FAMILY LIFE. WHETHER IT'S AT HOME, IN A STUDIO OR IN A STUNNING LOCATION, FAMILY PORTRAITS NEED TO BE ENERGETIC EXPERIENCES, NOT AN EVENT OF FORCED SMILES AND STATIC POSES. IT'S ABOUT CREATING REAL FAMILY MOMENTS AND CAPTURING THEM WITH FLARE, CREATIVITY AND IMPERFECTION. IN THIS FINAL INSTALMENT OF *FAMILY ALBUM,* WE SHARE IDEAS AND ADVICE ON PHOTOGRAPHING ITS CHAOS, JOYS AND THE EVERYDAY LIFE...

Words: CAROLINE SCHMIDT



1 *Love the details*

Capture bare feet and messy faces, the curls and the flower picking, the playtime and quiet time; literally capture the children's imagination to record those special windows into their childhood. It's also the little acts of intimacy, such as dad kissing mum on the forehead, the way a father holds his child or even siblings telling secrets that make memorable portraits. Set these scenes up in the right light and they can be magical.





PREVIOUS PAGE: THINKSTOCK. LEFT: BRETT HARKNESS



KATE HOPEWELL-SMITH





MY FOUR HENS PHOTOGRAPHY

2 *It's child's play*

Having siblings stand and smile will last seconds, if you're lucky. You should find activities that engage them like picking flowers, huddling in a blanket, playing games or even competing for who can jump the highest. Move quickly from one thing to another so they don't have time to think about what it is you're making them do. Holding hands, hugging and finding ways to make them laugh together can create natural and beautiful images. Try asking parents to step away so you can connect with the children as it may help their characters shine through.





MY FOUR HENS PHOTOGRAPHY

3 *Expect the unexpected*

Ask everyone to hold hands, cuddle, kiss, talk to one another so that they aren't looking at the camera. Families need direction, as while it's the spontaneous moments that make the best portraits – you can't leave these 'moments' to chance. Try to keep a session fast paced so family members are occupied and guide them into the best light and a flattering pose, then let them move around. Encourage them to tickle their children, play tag or take a walk. The first few frames might be formal but they'll loosen up. To capture the adjacent image, pro Kate Hopewell-Smith, used dad to amuse his girls while she sat them in a window for top shade: "I told the dad that he needed to seriously entertain the girls, so he disappeared indoors and came out with a hobby horse and a hat with corks hanging off it. He proceeded to do a very funny play for them and bless him, he was standing in full sun. I always encourage family to initiate expression – it's so much more natural."





4 Family matters

Family photo shoots can be exhausting work, for mums especially. They're trying to get their children looking their best, to behave and rile a shred of enthusiasm from their partners all before it's begun. Most dads, at best, have the attention span of their children when it comes to shoots and at worst are disinterested in the entire fiasco. Spend time with everyone and treat everyone a little differently, explain your expectations and how long the shoot will take – you have to find a way to make everyone comfortable. Whether that's reassuring mum everything is okay, getting down to a toddler's eye level and playing games or talking up to a teenager to make them feel more confident and secure. A family photo shoot should be above all else, fun!

IMAGE: KATE HOPEWELL-SMITH



BRETT HARKNESS

5 Sit them down

Layering family members can make a pose look more relaxed and dynamic. Try pulling a couch around in front of French doors and having some family members sit on the floor, arms and cushions. Also try sitting children on gates, fences or walls with the parents standing behind them so they're all at similar head height. Standing young children on a park bench with their parents works great, too, as it makes them feel on top of the world.



MY FOUR HENS PHOTOGRAPHY

6 Go wide

By using focal lengths wider than 50mm you can shoot easier in tight spaces, like at home, and include a location in a scene for context. You can also shoot group family shots from above without using a stepladder or a step stool, enabling you to be prepared to embrace every opportunity. Be careful of any distortion that comes with shooting too close to subjects, however, unless you want the playfulness it gives to children's portraiture.

7 Extended family

Large groups can be tricky to pose – pro Kate Hopewell-Smith shares her approach: "First I find the best light, which would either be frontal flat light or backlight with fill flash. The light often dictates the location and the overall composition. Once I have decided this I tend to start with the tallest/biggest person and use them as an anchor. From here I think about triangles and begin to build the group person by person, introducing balance and a variety of eye line heights where possible."

THINKSTOCK



KATE HOPEWELL-SMITH

8 Lighten the mood

The knack of a successful shoot is to keep it fun, an approach pro Brett Harkness lives by: "A shoot cannot be about the shoot; you have to play with kids, appeal to their mentality – the camera is secondary. If you have kids who are tricky, find out what they enjoy doing and do it with them – then introduce the camera. Be stupid, crack jokes, jump around – do whatever it takes to get them on your side as the rest will flow."

9 Learn to work with what you've got

Look for bright areas of light within a home: windows, patio doors and doorways are ideal, and don't be afraid to move furniture if needed. Increase the ISO rating to retain a fast shutter speed to freeze moving children and shoot wide open to blur backgrounds. Explore your lighting options, too, as depending on how you position your subjects a simple window can offer you side-light, flat frontal light as well as a backlight for beautiful portraits, not to mention the potential for low-key, evenly exposed or high-key results. Light is the most important factor, but it can restrict your locations. When the weather is awful and the backdrops are worse, consider using flash or continuous light sources to create the pools of light to make any shoot work.



KATE HOPEWELL-SMITH



10

Sticking together

Pro Brett Harkness offer his advice for photographing families: "Flat lighting works well as does sitting a family on steps and layering them closely; if you keep your camera parallel to the family you can use a wider aperture than you could if you staggered them. If using flash, especially for larger groups where you need to use about f/8 for depth-of-field, use a softbox over a flashgun parallel to the subjects about 7ft away at 1/4 power to spread the light evenly. Alternatively, get outdoors and have a family walk down a street or lay on the ground and shoot them from down low to capture their interaction."

IMAGE: KATE HOPEWELL-SMITH

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SAMSUNG REMAINS A MAJOR PLAYER IN THE MIRRORLESS CAMERA MARKET AND ITS LATEST OFFERING BOASTS FEATURES FROM ITS TOP MODELS IN A SNAZZY COMPACT SHELL *Page 90*



Plus

GEAR NEWS: Our round-up of the latest product and gear announcements *Page 88*
PENTAX K-S2: It's the most compact weather-proofed digital SLR yet, and it offers plenty for the price. we find out if it's a bargain buy for first-time users *Page 92*
LYTRO ILLUM: A new dimension in digital photography and a unique way of shooting *Page 94*
CANON 11-24MM ZOOM: Lee Frost heads to Cuba to try out Canon's incredible ultra-wide lens *Page 96*
PREMIUM FLASHGUNS: We test seven of the best flashguns priced over $400 *Page 100*
MINI TESTS: Joby UltraFit Hand Strap and cute Shutter Huggers reviewed and rated *Page 107*

Sony A7R II announced



WHEN THE ORIGINAL Sony A7R was announced, a weight was lifted off many photographers' shoulders – quite literally. The diminutive camera was the first full-frame mirrorless model and boasted a huge resolution, incredible image quality and compact size.

Just under two years later and Sony has announced its successor – the Sony A7R II – and the specification looks set to impress. Sony makes a huge share of image sensors used in cameras today – 40% of cameras sold last year are said to have used Sony sensors! It should therefore come as no surprise that the A7R II's 42.2-megapixel sensor, which has no optical low pass filter, is the world's first back-illuminated full-frame CMOS sensor. Sony claims that the backside illumination helps boost both the speed and sensitivity of the sensor, and with 399 phase detection and 25 contrast detection autofocus points, the A7R II is said to be 40% faster to focus than the A7R – a criticism that many had of the original. It also features a new reduced-vibration shutter, which is claimed to create 50% less vibration than the previous model. It can shoot at ISO 50-102400 and is said to process images 3.5x faster than its predecessor. It offers the same five-axis in-body image stabilisation as found in the A7 II, and is capable of shooting 4K video and outputting to a range of file formats. There's also a newly-developed XGA OLED Tru-Finder with the world's highest (0.78x) magnification. On sale now, the A7R II body costs around $4000. ***www.sony.com.au***

SIGMA'S FAST ZOOM

FOLLOWING THE LAUNCH of the 18-35mm f/1.8 DC Art, the world's fastest zoom lens for APS-C DSLRs, full-frame users have wished for a similar optic. The wait is over with the announcement of the Sigma 24-35mm f/2 DG HSM Art. Boasting a fast f/2 aperture throughout the zoom range, the lens covers the focal lengths of three popular primes – 24mm, 28mm and 35mm. There are 18 elements in 13 groups, include one FLD ('F' Low Dispersion), seven SLD (Super Low Dispersion) and two aspherical elements. We're awaiting further details on availability and price, but expect initial units to be in Nikon, Canon and Sigma fittings. ***www.sigmaphoto.com.au***





Manfrotto's tether tool

MANFROTTO'S DIGITAL DIRECTOR is set to offer the most reliable and dedicated option yet for those wishing to use an iPad as a camera monitor. Designed to link a Canon or Nikon DSLR to a mounted iPad Air, it uses its own processing unit to offer a fast, sophisticated user interface for stills and video photography. Having been given a preview, we can vouch for its speed, high level of control and its slick display. At $750, it's clearly aimed at enthusiasts and pros, and is the first product of its type to boast Apple certification. ***www.manfrotto.com/au***

IS THIS THE ONE?



UP UNTIL THIS point DxO has been best known for its excellent imaging software and camera and lens testing, which for many has become the industry benchmark. In a surprise announcement it unveiled its latest venture – the DxO ONE camera! Sporting a 20.2-megapixel resolution, this modular camera works in conjunction with an iPhone or iPad. It packs a 1.0in back-illuminated CMOS sensor and a 32mm-equivalent f/1.8 lens and attaches by way of the device's Lightning port. Once connected, a free app allows users to control aperture, shutter speed and ISO, as well as LiveView and triggering the camera. Images are recorded in Raw and/or JPEG, and it can record 1080p 30fps or 720p/120fps video too. Phone detached, the camera measures just under 7cm tall and weighs around 100g, so will easily slip into a pocket. Unsurprisingly, the DxO ONE scored highly in DxO's own lens tests. Should you be tempted, it will retail for around $775 once available. ***www.dxo.com***

NEW ADOBE TOOLS

Camera Raw version 9.1 is here, and there are a couple of new tools in the mix. A new Dehaze feature allows users to remove mist, fog and haze from images in seconds. We've given it a try and it works surprisingly well! Also new are local White and Black adjustment sliders that can be used alongside the Gradient Filter, Radial Filter and Adjustment Brush tools. The updates are available to Photoshop CC or Lightroom CC users. Unfortunately, Lightroom 6 users only receive the latest camera and lens support and not the new tools. ***www.adobe.com***

POWERFUL CANON



Canon has announced a new high-spec compact – the PowerShot G3 X. It is the first model in the PowerShot series to boast a 1.0in back-illuminated CMOS sensor. It sports a 20.2-megapixel resolution and features a 25x optical zoom lens (24-600mm equivalent) with nine-blade f/2.8-5.6 maximum aperture. A DIGIC 6 processor powers the entire operation, there's a 3.2in tilting touchscreen, weather- and dust-proofing and full manual control, allowing users to enjoy DSLR-like control and image quality without the bulk. The PowerShot G3 X was available from July, priced at $1200. ***www.canon.co.uk***

HEADS UP!



New from Manfrotto is the XPRO ball head. Built to complement the 190 and 055 ranges of tripods, the new ball heads are available with two plate options, feature a magnesium body and triple locking system for precise control. Weighing just 500g, the XPRO heads are built in Italy to a high standard and can take a 10kg payload – enough for most enthusiast DSLR and lens set-ups. Available now, the XPRO with 200PL plate costs $250 while the Arca-Swiss compatible Top Lock model is $340. ***www.manfrotto.com/au***







ALL-NEW FUJI PRODUCTS AND FREE UPDATES

FUJIFILM HAS UNLEASHED a trio of products and updates in the form of a new camera model, lens and a major firmware update. After the roaring success of the brand's flagship APS-C X-T1, it has launched the Fuji X-T10 with all of the performance and quality of its larger sibling minus the size, weight and price tag. It sounds too good to be true!

The X-T10 packs in the same 16.3-megapixel APS-C X-Trans CMOS II sensor with built-in phase detection autofocus and EXR Processor II as the X-T1, not to mention that fantastic Real Time electronic viewfinder (EVF). The EVF has been improved with a 2.36 million-dot organic EL viewfinder and ambient light level controls. It also boasts the same autofocus improvements that are coming to the X-T1 (see below). The X-T10 shares the same stylish, retro-inspired angular lines as the X-T1, but on a smaller scale. It appears to be aimed at more casual shooters wanting the same fantastic image quality, without the size and weight of its bigger brother. However, the X-T1 still has weather sealing above and beyond the X-T10. Compatible with existing XF and XC lenses, the X-T10 is on sale now, priced at $950 (body-only), $1050 with XC16-50mm lens or $1200 with XF 18-55mm lens – a chunk of cash cheaper than the X-T1!

Also new from Fuji is another weather-resistant lens – the Fujinon XF 90mm f/2R LM WR. Offering a newly-developed Quad Linear Motor, Fuji claims that it can autofocus in just 0.14 seconds. There are 11 elements in eight groups, with three extra low-dispersion elements to reduce chromatic aberrations. At this focal length (137mm equivalent), the new lens promises to be a cracking addition to any portrait shooter's collection. Available since July, the XF 90mm f/2R LM WR will set you back $1200.

The final announcement from Fuji is a free firmware update for the X-T1 that claims to transform the camera's AF system. Available now, the update offers improved tracking of moving subjects via new Zone and Wide/Tracking modes. AF accuracy has also been improved in the single-point AF mode, and Eye-Detection AF has been added, which automatically focuses on human eyes – impressive stuff! *fujifilm.com.au*



New high-spec Panasonic Lumix

Panasonic has unveiled an addition to its Lumix family – the DMC-G7. As we've come to expect from Lumix models, the new camera is well-specified when it comes to shooting video, boasting 4K video recording at 25p or Full HD at 50p. Behind this capability is a 16-megapixel Live-MOS sensor and up to 8fps still shooting thanks to the Venus Engine image processor and quad-core CPU. There's a ceiling ISO of 25600 made possible in part to an improved Multi-process Noise Reduction (NR) system, and a fast Contrast AF system featuring Depth From Defocus (DFD) technology, which claims to shorten focusing time even further. The new Lumix DMC-G7 is available now in black or silver, priced at $899 body-only. *www.panasonic.com/au*



Throw & shoot

Drones have been around for a good while, but this one really caught our eye. The new Lily Camera looks to take the world by storm, if it's as good as it looks. What separates the Lily from the rest is that it's self-flying, waterproof, and is activated by simply throwing it up in the air. Four propellers kick into life and the drone tracks and films the user in Full HD using clever algorithms and a GPS bracelet – the latter can be used to control the Lily to a certain degree, telling it to follow from behind, track in front, fly past or circle. It can stay airborne for 20 minutes and track up to 15mph, too. We hope this is an idea that gets off the ground – pun intended. The Lily Camera is due on sale February 2016, priced at around US$1000. *www.lily.camera*

WIDE ANGLE



Lee Filters has updated its excellent SW150 wide-angle filter system to support other optics. Still suitable for the Nikon AF-S 14-24mm f/2.8G ED, the new system is also compatible with the Samyang 14mm f/2.8 ED, Tokina AT-X 16-28mm f/2.8 FX and Sigma 12-24mm f/4.5-5.6 II DG. It also features a new Lightshield system, which creates a light-tight seal. What's more, Lee Filters' range has been extended, and users can now buy the Little and Big Stoppers, and circular polariser, in 150mm size. *www.leefilters.com*

NEW NIFTY FIFTY



One of the most popular lenses on the market, the Canon EF 50mm f/1.8, or 'nifty fifty' as it's collectively known, has been updated. Canon has announced the successor – the EF 50mm f/1.8 STM. The new lens features a seven-blade aperture, super spectra coating and Canon's Stepping Motor technology, which offers near-silent focusing – perfect for video shooters. Weighing in at 160g, the new lens is the perfect carry-everywhere prime. Costing $199, it's likely to be on the must-have list of every Canon photographer. We can't wait to give it a try – we'll let you know how it fares! *www.canon.com.au*

SAMSUNG NX500

Can this small and stylish mirrorless model be considered an alternative to a digital SLR? Samsung certainly hopes so, but here's what we think...

Test: DANIEL LEZANO

SPECIFICATIONS
Kit Price (with 16-50mm Power Zoom): $999
Image sensor: APS-C CMOS (23.5 x 15.7mm)
Resolution: 28.2-megapixels
Maximum image resolution: 6480x4320pixels
AF points: Phase Detection: 205; Contrast AF: 209
ISO range: 100-25600 (Hi: 51200)
Shutter speeds: 1/6000sec-30 seconds & Bulb
Continuous frame rate: 9fps
Flash: External unit, included with camera
Monitor: 3in AMOLED touchscreen (1,036,000-dot)
Storage: SD (SDHC/SDXC)
Size: 119.5x63.6x42.5mm
Weight: 292g (without battery and card)



HIGHLY SPECIFIED
The Samsung NX500 is a sleek and compact model yet manages to fit an APS-C sensor into its body. We like the camera's handling but are less keen on the Power Zoom lens.

HIGHLY RATED



WHEN MIRRORLESS CAMERAS, also know as Compact System Cameras (CSCs), first came on the scene, there was a lot of talk that the age of the DSLR was over. The removal of the reflex mirror brought with it advantages like smaller and lighter bodies and faster AF and the potential to produce similarly specified cameras for less, meaning CSCs would be more affordable than comparable DSLRs.

However, despite these benefits and heavy marketing, CSCs remain a clear minority in the world of interchangeable-lens cameras, accounting for around 20% of the market. DSLRs therefore continue to be the favourite with hobbyists, enthusiasts and pros alike, but that's not to say you shouldn't consider a CSC like Samsung's NX500 as part of your camera outfit. In the past, many SLR users kept a premium compact with them, to use at times when a larger camera was prohibitive. CSCs are now filling that role, offering the potential to deliver images of similar quality to a DSLR, yet in a smaller body that also boasts the major benefit of interchangeable lenses.

Samsung's NX500 is the Korean electronics giant's latest model and I have to say from the start that I'm mightily impressed with its capabilities. Although a similar size to many premium compacts, it houses an APS-C CMOS sensor and several features passed down from the flagship NX1 model, making it worth considering if you're on the hunt for a small, well-specified camera.

Let's consider the sensor first of all. As I mentioned, it's an APS-C format CMOS, unlike many of its rivals, which use smaller sized sensors, but that's not its only advantage. The sensor boasts BSI, or backside-illumination, which allows for larger, more efficient pixels. And its resolution of 28.2-megapixels (giving images with a maximum resolution of 6480x4320pixels) is the highest of any APS-C sensor. A bigger sensor with BSI and a high resolution therefore delivers the promise of higher quality images and video compared to rivals. On the point of shooting HD video, the Samsung has the capability to shoot 4K for ultra-high resolution movies, as well as your more typical HD formats, too.

Such a high performance sensor demands a powerful processor and the NX500 boasts a Samsung DRIMe V$_S$ processing engine, which bar some slight modifications, is the same as the chip used in the NX1 and allows you to shoot at an impressive nine frames-per-second.

You can see that your £600 is already getting you quite a bit of high-tech innovation already – delve further into the NX500's arsenal of features and you'll find many more features on offer.

The NX AF System III uses the same hybrid system as the NX1. It's based on 209 Contrast AF points and 205 Phase Detection AF points, of which 153 are the more sensitive cross-type sensors. As well as your standard AF modes (single, continuous and active), you can also touch the screen on the area of the image where you'd like to focus.

The exposure system is also well catered for, with the main dial quickly allowing access to the core four modes (program aperture-priority, shutter-priority and manual), along with full auto, Smart (ie scene) modes and SAS (Samsung Auto Shot) modes. This latter setting brings up three rather unusual exposure modes (Baseball, Jump Shot and Trap) aimed at using the Hybrid's AF system to capture the moment when a baseball player connects with the ball, an athlete reaches the peak of their jump or a moving object passes a particular point in the frame. In terms of metering patterns, the NX500's default setting is a 221-segment pattern, supported by the choice of spot and centre-weighted, with +/- five stops of exposure compensation.

Shutter speeds range from 1/6000sec to 30 seconds (plus Bulb) and flash sync is 1/200sec. The Samsung doesn't have a flash built in, but does have a small external unit supplied with the camera, that can be slipped on the hotshoe when required.

Another feature that's lacking on the NX500 when compared to the NX1 and DSLRs is a viewfinder. Images must be composed using the Samsung's 3in screen. Fortunately, it's a very high quality display, with good brightness and contrast and a sharp 1,036,000-dot screen. It is housed on a tilting platform too, so you can alter when shooting at awkward angles – you can even rotate it 180° for selfies! As mentioned earlier, it is touchscreen so you're able to



Exposure: 1/100sec at f/8 (ISO 160)



Exposure: 1/180sec at f/5.6 (ISO 400)

select and change functions quickly and easily by pressing the appropriate icons.

As you'd expect of a company that produces mobiles, the NX500 also offers Bluetooth, NFC and most importantly Wi-Fi, so you can upload to a tablet or smartphone.

An area where the Samsung performs well is with its general handling. Build quality is very good and while it's not weather-resistant, I've used it in the odd downpour and it suffered no ill effects. Its small, slim shape means it slips into a jacket pocket with ease and the nicely contoured handgrip makes it secure to hold. While the control buttons are smaller than on a DSLR, they're easy to use, thanks to their neat arrangement and clear markings. I also like the fact the NX500 boasts two input dials as this speeds up operation. The iFunction button on the 16-50mm kit lens is very useful too, although I'm not keen at all on the Power Zoom (as opposed to manual zoom ring). I also found I kept accidentally pressing the iFunction button when trying to use the zoom buttons as they're close together. This, and the lack of a viewfinder, were my only two real handling quibbles.

The Samsung scores very highly when it comes to overall performance. The JPEG files offer a great deal of data and are big enough to allow decent crops while retaining ample file sizes. The autofocus system performs very well and I rarely found it struggling to lock on to subjects. The exposure system is consistently accurate too – apart from backlit scenes and those with large areas of sky, I found the NX500 to get it right pretty much every time. As for noise, avoid going over ISO 1600 and you won't experience any problems.

Overall, it's fair to say the performance and image quality from the Samsung is on a par, if not better, than most other DSLR and CSC models at this price range.

SAMSUNG NX LENS SYSTEM

Samsung has worked hard to expand its lens range and the NX system now boasts optics to meet the needs of enthusiasts as well as hobbyists. The current range includes the following lenses:

- NX 10mm f/3.5 fisheye: $599
- NX 16mm f/2.4: $449
- NX 20mm f/2.8: $399
- NX 30mm f/2: $399
- NX 45mm f/1.8 i-function: $349
- NX 45mm f/1.8 2D/3D: $599
- NX 60mm f/2.8 ED OIS Macro: $649
- NX 85mm f/1.4 ED SSA: $875
- NX 12-24mm f/4-5.6 i-function: $799
- NX 16-50mm f/3.5-5.6 Power Zoom: $360
- NX 16-50mm f/2-2.8 ED OIS: $1600
- NX 18-55mm f/3.5-5.6: $245
- NX 18-200mm f/3.5-6.3: $840
- NX 50-150mm f/2.8 S ED OIS: $1795
- NX 50-200mm f/4-5.6 OIS: $250

CLOSEST RIVALS

- **SONY A6000:** One of Samsung's main rivals is this neat 24.3-megapixel model that sports an APS-C sensor, incredibly fast AF, Wi-Fi/NFC and Full HD video. It's slickly designed and boasts a great range of features, as well as solid all-round performance. You'll find it for around $850 with 16-50mm Power Zoom kit lens.
- **PANASONIC LUMIX GX7:** If you're looking for a fully laden specification housed in a snazzy retro design, check out the 16-megapixel GX7, available for $730 with 14-42mm zoom lens.
- **CANON EOS 700D:** Superseded by the 750D/760D combo, but there's still stock of this highly-specified 18-megapixel DSLR available. It boasts a stack of features, great performance and a huge lens range. You'll find kits with the 18-55mm lens on sale for around $800.
- **NIKON D5300:** Shop around and you'll find this excellent 24.1-megapixel DSLR with vari-angle LCD monitor for well under $800 with kit lens. It handles well, offer a full set of functions and delivers first rate results.

VERDICT

Samsung's aggressive price point helps the NX500 stand out from other cameras. It's the high resolution APS-C CMOS sensor that gives it the edge but while this is the main selling point, the NX500 has many others. It's a great all-round camera, a good alternative to a DSLR if you're travelling light, and a more versatile option to a premium compact as a lightweight and small second camera. Worth a look although the lack of a viewfinder may put some off.

Handling	17/20
Ease of use	17/20
Features	17/20
Performance	18/20
Value	19/20
Overall	**88/100**

PENTAX K-S2

The smallest weather-resistant DSLR yet boasts funky styling and stacks of features. Is it the ideal choice as your first DSLR? We think it just might be...

Test: DANIEL LEZANO

SPECIFICATIONS

Price (with 18-50mm kit): $999 (Guide) / $960 (Street)
Image sensor: APS-C CMOS (23.5x15.6mm)
Resolution: 20.12-megapixels
Maximum image resolution: 5472x3648pixels
AF points: 11 AF points (nine cross-type)
ISO range: 100-51200
Shutter speeds: 1/6000sec-30 seconds & Bulb
Continuous frame rate: 5.4fps
Built-in flash: Yes. Guide Number 12 (ISO 100, m)
Monitor: Vari-angle 3in TFT LCD (921,000-dot)
Storage: SD (SDHC/SDXC)
Size: 122.5x91x72.5mm
Weight: 678g (with battery and card)



INDIVIDUALLY STYLED
The Pentax K-S2's colourful styling was a shock initially, but its quirky design soon grows on you.

I'VE ALWAYS FAVOURED the underdog. Whether it be football, politics or *Robot Wars*, it's the odds-against-them-guy who gets my vote. When it comes to cameras, or more specifically digital SLRs, any brand that's not Canon or Nikon could be considered the underdog. With these two giants owning around 90% of the market, rival brands are literally fighting for scraps. And that's a real shame, not only because competition is healthy, but because the other brands are producing very good cameras indeed.

Take Pentax for example. It has existed since the dawn of 35mm SLRs and has made brilliant cameras for decades. Since the dawn of the digital age however, Pentax has remained in the shadows of the market leaders,despite producing excellent DSLRs.

The K-S2 is its latest entry-model and as with other recent models, Pentax has gone for an unconventional approach to design to offer something a little different to the norm.

Our review model, with a black body, grey front, patterned grey top-plate and orange base was a bit of a shock at first sight, but, having got used to it over a fortnight, I kind of like it. Giving potential users the chance to choose their own colour combination (120 variations are available) is one of the key differences Pentax hopes will entice photographers their way. The other, quite clearly, is value for money. The Pentax has packed a substantial level of features into its colourful and waterproof shell – as well as the added protection against the elements, you'll welcome features like the glass pentaprism and larger-than-standard viewfinder, which gives a bright, sharp viewfinder display with near-100% coverage, and body-integral Shake Reduction, which effectively provides you with image stabilisation of up to 3.5 stops with every lens. It also features Wi-Fi, so download Pentax's free app and you can view or share images or control the camera remotely. Bearing in mind most models offering these facilities cost a substantial amount more and you can already see the K-S2 is worth consideration.

The camera body has quite an angular design, with a fairly boxy shape, curved corners and a protruding handgrip. General handling is excellent, the camera feels well put together and all the controls are well-sized and clearly marked. The camera is compact, especially considering it boasts weatherproofing, and the collapsible design of the kit zoom helps shrink the overall size of the package when in storage. However, I wasn't keen on its very narrow zoom ring.

Having the 3in LCD monitor on an articulated platform is another big selling point of the K-S2 and the 921,000-dot screen provides a bright, clear display, although there is no touchscreen facility.

The menu offers an extensive set of tabs and the navigation uses Pentax's colourful icons as in previous models – I'm not particularly keen on them but this is my own personal taste, rather than a real criticism. When taking pictures, pressing the Info button allows you to switch from the standard screen to an electronic level.

With the camera aimed at first-time DSLR users or those with limited experience, it's worth noting that ease of use is very good. On top of that, operation is speeded up by factors like the four-way control and input dials at the front and rear of the body.

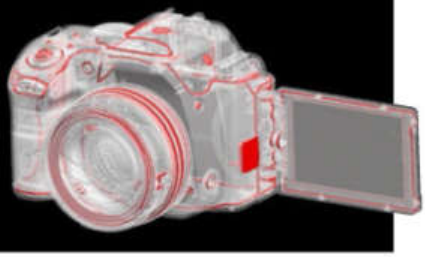
The Pentax K-S2 features a 20.12-megapixel APS-C CMOS sensor and, much like many other recent cameras, has done away with the anti-aliasing filter. For situations where moiré presents problems, an AA Filter Simulator mode, which uses the Shake Reduction system to make minute movements to the image sensor during the exposure, can be engaged. Full HD movie recording is possible and while there is no 4K movie mode, it offers a 4K Interval Movie mode that merges still images captured at intervals to create a 4K movie file.

The autofocus system uses 11 AF points, of which nine are the more sensitive cross-type. Pentax claims these sensor work in light levels as low as -3EV, which in theory means AF will work in near-dark conditions. You can set all AF points to be active, or select a group of five points or choose an individual AF point only.

There is no shortage of exposure modes on offer via the top-plate dial. As well as Auto, manual, program, shutter- and aperture-priority and Scene modes, you have a few

A CAMERA FOR ALL SEASONS

To ensure the K-S2 can be used in various weather conditions and locations, the body has sealings in 100 locations, including covers, buttons and dials, to prevent water, sand and dust from entering the camera.





Exposure: 1/250sec at f/14 (ISO 400)



Exposure: 1/200sec at f/5.6 (ISO 400)

others to choose from. Sensitivity-priority (Sv) alters the ISO rating, while Shutter & Aperture Priority (TAv) lets you set apertures and shutter speeds, with the camera altering the ISO to suit. There are two user-defined modes where you can save favourite settings and Auto-HDR (A-HDR), which creates an in-camera HDR image from three exposures.

As for metering patterns, you can select from the 77-segment multi-pattern, spot or centre-weighted, with +/- five stops of exposure compensation in 1/2 or 1/3 steps.

The shutter speeds range from 1/6000sec to 30 seconds (plus Bulb) and flash sync is 1/200sec. The integral flash has a Guide Number of 12 (ISO 100, m), making it suitable for basic family shots within a short distance, with a hotshoe allowing for more powerful units to be attached. Flash modes include second-curtain and slow-sync and flash compensation. Along with the usual picture styles like Natural or Portrait, you can use digital filters like Toy Camera or Retro should you wish to capture some unusual effects.

With so much on offer, you might expect to see some shortcomings in performance but that's not a problem I encountered.

The autofocus system zips positively into focus and I found Pentax's claims for AF in low light to be well founded. The exposure system is very consistent too, handling all manner of lighting situations well, with the exception of backlighting – a problem every camera's system falters on. The Auto White Balance is adept too, again struggling like others indoors in tungsten-lit areas, but otherwise proving very reliable.

Image sharpness is very good with JPEGs offering very good levels of detail, although you'll get more from processing your Raw files. Noise isn't a concern at speeds up to 1600, with ISO 3200 files being usable.

Overall, the Pentax scores highly and stands up very well against its key rivals.

PENTAX WI-FI / NFC

With social media so popular, giving camera users the option to share images quickly makes complete sense. The K-S2 boasts NFC (Near Field Communication) as well as Wi-Fi, allowing anyone with compatible smartphones or tablets to pair with the camera for transferring photos or for remote shooting. Pentax's Image Sync app allows you to change camera settings, remotely capture images and then share them on Facebook with ease.



CLOSEST RIVALS

- **NIKON D5500:** When we reviewed this compact DSLR, it scored 90% and a Best Buy accolade. Image quality from the 24.2-million pixel sensor is fantastic, while its range of features, including vari-angle touchscreen LCD, will keep users happy for years.
- **CANON EOS 750/760D:** The successors to the popular EOS 700D boast 24.2-megapixels, an articulated LCD and access to the extensive EOS lens system.
- **FUJIFILM X-T10:** Available for $1050 with 16-50mm zoom, if this 16-megapixel CSC with DSLR styling is anything like the X-T1, it's going to be a roaring success.
- **SAMSUNG NX500:** We tested this brilliant CSC in a recent issue and gave it a test score of 88%. Available with a 16-50mm zoom for around $850, this small, stylish mirrorless marvel offers a good range of features (but no viewfinder). Its biggest selling point is the image quality from its 28.2-megapixel APS-C sensor.

VERDICT

BEST BUY

Any brand wanting to loosen the grip of Canon and Nikon needs to deliver something special, and the K-S2 fits into this category. It offers all the features you'd expect and then some, within a body that offers added protection from the elements. Add to this the fact that image quality is on a par with anything else at this price point and it's clear that Pentax has a winner in the KS-2. It's definitely one for the shortlist.

Handling	18/20
Ease of use	18/20
Features	18/20
Performance	18/20
Value	19/20
Overall	**91/100**

LYTRO ILLUM

The Lytro ILLUM is unlike any other camera, letting you alter depth-of-field and focus point after capturing the shot

Test: DANIEL LEZANO

SPECIFICATION

Guide Price: $1999 / **Street Price:** $1499
Sensor: 1/1.2in CMOS
Resolution: 40-megarays
Image resolution: 4896x3264 pixels
Integral lens: 30-250mm f/2
LCD monitor: 4in dual-tilt (480x800-pixel screen)
ISO range: 80-3200
Shutter speeds: 1/4000sec to 32 seconds
Storage: SD (SDHC/SDXC)
Size (WHD): 145x86x166mm
Weight: 940g (including battery & card)
Website: www.lytro.com



Above: The 30-250mm f/2 zoom dominates the Lytro's unusual design. **Right:** On the right of the LCD is the depth scale – aim for a good spread of blue and orange around the focus point.

THE LYTRO ILLUM is a camera without comparison – a photo oddity that turns conventional photography on its head. To truly understand how it works you really need to get your hands on one. But with the Lytro costing a dollar shy of two grand as we went to print (a drop of $500 since launch), few will get the chance, so this review will try its best to explain what makes it such a unique proposition to use.

Lytro describes what the ILLUM captures as 'living pictures' and I can see where this description arises from. Conventional cameras focus on a particular spot, images are taken at a selected aperture and thus shots are captured with a specific depth-of-field, but not the Lytro. It allows you to change the point of focus and depth-of-field from the comfort of your computer, rather than at the moment of capture.

It does this by capturing light rays travelling in multiple directions to deliver what's best described as a three-dimensional array of information, as opposed to the flat 2D data a standard camera records. This is possible because a microlens array in front of the sensor cleverly spreads the light before it reaches the sensor, the ILLUM's processor then uses the data to determine the information needed to allow you to later change focus and aperture, as if by magic. As you'll discover when using Lytro's supplied software, you can alter variables like the aperture and point of focus as easily as more typical adjustments like colour and contrast.

This explains a little why the Lytro is quoted with a resolution of 40-megarays as opposed to megapixels – various experts far cleverer than me state that for comparison purposes, you should view 2D JPEG images (as opposed to Raw files containing full three-dimensional data) as having a resolution close to four-megapixels.

The Lytro is a very unusual looking camera, with a long, thick lens mounted on to a thin body. Despite the unorthodox appearance, it's surprisingly nice to handle.

The Lytro's lens is a non-interchangeable 8x zoom that is equivalent to 30-250mm in 35mm terms. There is no aperture control, instead everything is captured at f/2, regardless of the focal length used. Close-focus is excellent – you can literally touch the subject to the front element of the lens and keep it sharp in the frame.

Its rear is dominated by a large 4in touchscreen LCD set on a tilting platform. The camera body itself has only a few







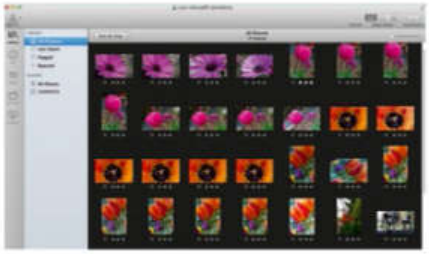


Bottom left: The same image is shown processed with different apertures. The point of focus can be changed too. **Right:** The Lytro's software package is set out to work much like popular editing suites, such as Adobe Lightroom.

buttons for key features like AF and AE-Lock, as well as a multi-purpose functions button and input dial – you'll find most key controls can be selected via the touchscreen. Selecting the likes of White Balance or frame advance is similar to normal cameras, but in terms of exposure modes there is no aperture-priority, as the camera shoots everything at f/2. ISO ratings can be set between 80-3200 and the Lytro boasts Wi-Fi, so you can view images from the ILLUM on your smartphone.

The real difference in how you capture images comes when deciding how much of the scene is in focus. Rather than choose a point of focus and think 'wide aperture for shallow depth-of-field, small aperture for the opposite', you need to use the depth scale on the right of the LCD. This scale indicates the range the camera can refocus the image to via the software – in practical terms it's equivalent to around f/16 on standard cameras. The scale is split into orange and blue areas – the area in front of the focus point is blue, the area behind is orange. For the best possible results you need to adjust the scale (via changing the focus point, focal length and/or subject-to-camera distance) until there is a good spread of colours across the scale.

Confused? Yes, the Lytro does take getting used to – and we've not even got to using its software to handle 3D data! Don't worry, we won't delve on this latter part, except to say the software is set out like other editing packages, so you should get used to using it fairly quickly. You'll find image processing isn't problem-free, with shots often sporting 'depth artefacts' that



needed editing out (see our example images), hopefully future updates will reduce this problem. As well as 2D JPEGs and 3D Raw files, you can create 'moving images' that show a transition of the depth-of-field. It's this area where I can see future Lytro models gaining ground. As a stills camera, it's too expensive and too low in resolution, but its unique characteristics may see its adoption on websites and for special effects. While its JPEGs show decent sharpness and vibrant colours, it's not good enough to warrant purchase for stills. I'm sure some users, though, will find use for its 3D capabilities for specialist, online usage.

VERDICT

There is no denying the Lytro ILLUM represents a new dimension in digital photography and I'm sure its unique capabilities have specialist applications. Its high price and low resolution means its not a viable choice of camera for the enthusiast or hobbyist. However, it's certainly an interesting and unique proposition that I'm sure will improve over the next few years.

Build quality	✪✪✪✪
Features	✪✪✪◐
Performance	✪✪✪
Value	✪✪✪
Overall	✪✪✪

Stellar Photo Recovery software

Fast processing / Recovers video, audio and stills / Simple to use / Windows and Mac compatible

Test: CAROLINE SCHMIDT

Price: US$78
Contact: stellarphotorecoverysoftware.com

IT HAPPENS TO the best of us and we all experience the same sinking feeling, whether it's mourning the loss of family photos or the products of your latest photo shoot. There are many reasons a memory card might corrupt. The most common is if you interrupt the reading or writing of data from the camera or computer, or delete files using your computer not by formatting your card. But when you have a reliable image recovery software to hand, you know you can breathe a little bit easier.

Stellar Phoenix Photo Recovery software offers two versions: standard and Platinum Edition; the latter 'repairs corrupted JPEGs', gives you previews and is the more expensive of the two – and the one I've tested here to recover stills. Dubbed as the complete solution for image recovery, the software is designed to retrieve audio, video and still file data from hard drives, USBs and memory cards in all manners of file formats (Raw, JPEG, TIFF, PNG, Exif etc). Using the software is simple: choose, scan, recover and save – there's no room for error. It completed its scan of 250 images in less than ten minutes but, despite promising to recover Raw files, it only retrieved full-resolution JPEGs and low-resolution files. While it did recover all the JPEG images on a formatted card, it's often the Raw files that hold the most value and for a software costing US$78, I'd expect it to be a reliable solution. Companies such as Lexar and SanDisk offer their own free recovery software, which in this case retrieved all the Raw files. So if you have it, make that your first port of call and leave the third-party software for when recovering something is better than nothing.

VERDICT

For the money, I'd expect the software to reliably and consistently recover Raw files but it didn't instill confidence in me and the supplied software from the memory card manufacturers did a better job.

Overall	✪✪◐✪✪



CANON EF 11-24MM F/4L USM

Canon's new record-breaking zoom is causing quite a stir. On a recent trip to Cuba, Lee Frost took one out for a comprehensive field test

Test: LEE FROST

WIDE-ANGLES ARE BY far my favourite lenses. Always have been, always will be. Over the years I've owned them in all shapes and sizes, from ultra-wide zooms to full-frame and circular fisheyes. I just love the way they bend and stretch the world and allow me to squeeze so much into the frame.

For years, Nikon reigned supreme when it came to producing the sharpest ultra wide-angle zoom in the world, in the form of the NIKKOR AF-S 14-24mm f/2.8G ED. I often wondered why there was no Canon equivalent and despite being a devoted Canon user, I did have a brief flirtation with the Nikon 14-24mm, adapting it for my EOS 5D MkIII. The romance was short-lived – using it was too much like hard work due to the lack of electronic contacts. I then tried the Sigma 12-24mm, which at the time was the widest corrected zoom on the planet. A great lens for the money, but not the sharpest tool in the shed.

But now, after years of waiting, Canon has finally trumped everyone in a way even I never dreamed of. Their latest optical offering, the EF 11-24mm f/4L USM, is the widest zoom lens ever made. Ever.

I'd been itching to get my hands on it from the day Canon announced it, and finally took delivery of one a few days before flying out to Havana. It's a shame it didn't come attached to an EOS 5DS, but beggars can't be choosers I suppose!

The first surprise came when I opened the box and took the lens out. Man, it's big. Seriously. The front end looks like half a crystal ball and as I gazed into it, I could see a very exciting future!

Achieving such an incredible focal length range takes some serious optical engineering and that's partly why the front end of the 11-24mm is so big, and also why the lens is so heavy, tipping the scales at over 1kg. It boasts 16 glass elements in 11 groups. The first three (the biggest three) and the last one are aspherical. If that weren't enough, it also has a Super UD (Ultra low Dispersion) glass element and a UD glass element to increase sharpness and further reduce colour fringing.

The second surprise came when I peered through the viewfinder and zoomed back to 11mm. Man, it's wide. Seriously. If you have problems with balance, have consumed alcohol or suffer from a dodgy ticker, I suggest sitting down to do this, otherwise you might just fall over. The field-of-view is enormous. Some might even say greedy. I let my wife have a quick look through the viewfinder and her legs turned to jelly. "Wow, that's incredible," she says. "You should buy one". I mention the price. "Okay, probably best not rush into these things".

Fast forward 48 hours and I'm exploring the streets of Havana at dawn, slightly jet-lagged, slightly sweaty in the 35° heat but eager to start filling memory cards. I round a corner and stumble upon an old American car. Not exactly difficult in Cuba – there are thousands of 'em – but I decide to shoot it anyway and see what Big Bertha is capable of.

I pop it on my EOS 5D MkIII, lock that onto my Gitzo tripod, take a deep breath and zoom back to 11mm. The car looks like a Matchbox toy, even though I'm only 2m away. I move in closer. Still too small. Closer still. Nope, going to have to do better than that. By the time the composition is starting to look half decent, I'm so close to the car that I feel like I've climbed inside the headlamp. Which highlights an important factor – 11mm is very, very wide. Too wide? Only time will tell.

I take a shot and check the preview screen. The composition looks good but the sky's completely blown out. Better fit a trusty ND grad. Which highlights another important factor. Thanks to that bulbous front end, you can't fit filters at the front, only gels cut to size for a rear slot – which doesn't solve the problem. With any luck, Lee Filters or Hitech will soon launch an adaptor for their SW150 and Lucroit systems so grads and ND filters can be used on the front of the 11-24mm. But that's another few hundred quid added to the cost of the lens. Kidney anyone?

Obviously, you don't have to use ND grads – in this case I shoot a series of exposures that I can blend once back home using HDR Efex Pro – but I'm old fashioned



Exposure: Multiple brackets at f/16 (ISO 400)

SPECIFICATIONS

Price: $4699 (Guide) / $3999 (Street)
Sensor format: Full-frame & APS-C
Construction: 16 elements in 11 groups
Maximum aperture: f/4
Minimum aperture: f/22
Minimum focus: 28cm at 24mm; 32cm at 11mm
Filter thread: n/a (rear slot-in)
Image stabilisation: No
Focusing: AF and Manual
Angle of view: 126-84° diagonal; 117-74° horizontal; 95-53° vertical (full-frame)
Number of diaphragm blades: Nine
Dimensions: 108x132mm
Weight: 1,180g
Supplied accessories: Lens hood, front & rear caps
Website: www.canon.com.au

Above: Merging exposures using HDR software overcomes the difficulty of using filters with the bulbous 11-24mm. **Right:** The resulting image quality is superb, with virtually no fall-off of sharpness at any aperture, even wide open!



Exposure: 1/60sec at f/5 (ISO 1600)



Exposure: 1/400sec at f/8 (ISO 100)

and prefer to get my shots as close to finished in-camera as I can. It saves time at the computer if nothing else.

Later that day I head to an old building I've photographed before, to see how the 11-24mm copes with interiors. As expected, it's in its element. The super-wide capability allows me to compose shots that I've never managed to take before, simply because my widest lens (16-35mm) isn't wide enough.

I turn the camera on its side and set to 11mm I can capture the floor and the ceiling in the same frame. Better still, with the camera carefully levelled, there's no distortion. Vertical lines remain vertical – at 11mm! I also love the dramatic perspective, which emphasises the lines and curves beautifully. For architecture this is one heck of a lens. More versatile than the Canon 17mm tilt-shift? Quite possibly.

I even used it at 11mm to shoot sequences of images that were subsequently stitched into panoramas using Photomerge in Photoshop. There were a few false starts as the software got to grips with the wideness of the images, but I found that if I used the Spherical layout option it handled them fine. Imagine that – panoramas shot at 11mm full-frame! It only takes half a dozen frames to cover 360° – and that's with a generous overlap.

As the days roll by and I become more accustomed, the lens starts to feel familiar. It's really well put together and is nicely balanced on my EOS 5D MkIII. In some situations I'm forced to handhold, but despite the size, weight and lack of IS, I confidently shoot at shutter speeds down to 1/60sec and they're tack-sharp.

Speaking of which, optically, this lens is amazing. It's quite possibly the sharpest lens I've ever used, which is saying a lot given that it's an ultra-wide zoom. It doesn't matter which aperture you shoot at – from f/4 to f/22, corner-to-corner sharpness is superb. At the wider end of the focal length range depth-of-field is also enormous so you'll never need to stop down below f/5.6 or f/8 to record everything in sharp focus from the near foreground to infinity. At 11mm and f/8, the hyperfocal distance is roughly 0.5m. Focus the lens on 0.5m and depth-of-field will extend from 25cm to infinity! Not only that, fall-off at the corners is non-existent at all apertures except f/4, where it's too slight to worry about – almost unheard of in an ultra-wide zoom.

Distortion is minimal too – far less than in my Canon 16-35mm f/4L IS, and I thought that was good! There is a little distortion at 11mm, but we can forgive Canon that, and it's easy enough to correct using the Lens Distortion Filter in Photoshop, though I didn't bother. Can you tell? Exactly. At the time of testing, Adobe hadn't upgraded ACR to include a profile for the 11-24mm, but to be honest, I don't think the images need it as they're so good. It's almost as if Canon have stumbled upon some magic optical formula by accident and used it in the creation of this lens. Once you see the results, the $4699 price tag starts to seem reasonable. Just.

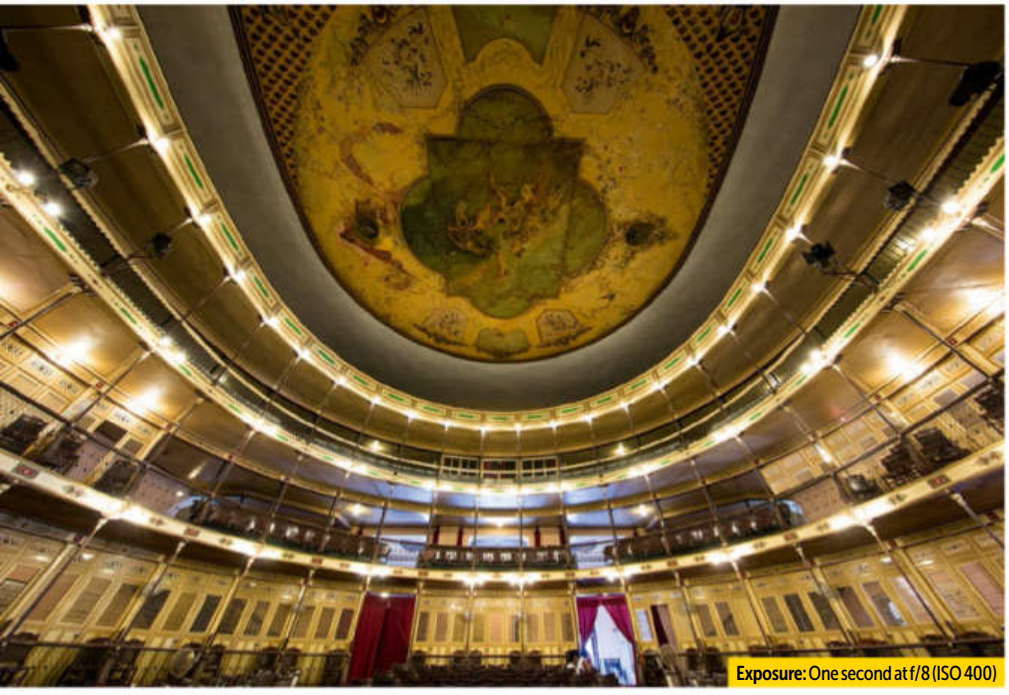
I apologise if I come across as a little over-enthusiastic, but it's rare that I get so excited about a lens. The last time was when Zeiss launched the 21mm f/2.8 Distagon. But this is way better. Canon has created a lens that has no rival. A lens that will allow you to take photographs no other lens can.

I'd say it's too wide at 11mm for landscape photography – you'd struggle to find scenes where such a massive field-of-view works. But for architecture and interiors it's completely at home, and for general creative photography it will open doors that until now have been firmly closed.

Above: Stitching a sequence of shots produces amazing panoramas that cover a huge field-of-view.
Right: The super-wide focal length offered by the Canon EF 11-24mm is perfect for shooting architecture and interiors.



"CANON HAS CREATED A LENS THAT HAS NO RIVAL. A LENS THAT WILL ALLOW YOU TO TAKE PHOTOGRAPHS NO OTHER LENS CAN"



Exposure: One second at f/8 (ISO 400)

VERDICT



HIGHLY RATED

Wow, this lens is insane! It's the sharpest wide-angle zoom ever made, the widest wide-angle zoom ever made. It's virtually distortion-free and suffers from minimal fall-off. There really isn't anything bad to say.

Okay, at $4699 it's expensive. But given the incredible 11mm minimum focal length, Canon has achieved almost the impossible and that's going to cost. It's a unique lens that can do things no other lens can. Top quality lenses are also a long-term investment – there's no reason why you won't still be using it in 20 years, whereas it's highly unlikely you'll keep your next DSLR for five. So instead of upgrading your EOS 5D MkII or MkIII to the new 5DS (which costs a similar amount), why not buy this awesome lens instead? After all, do you really need 50 megapixels?

Build quality	✪✪✪✪
Features	✪✪✪✪✪
Performance	✪✪✪✪✪
Value	✪✪✪✪
Overall	✪✪✪✪✪

Premium flashguns

THESE TOP-SPEC FLASHGUNS FROM LEADING BRANDS BRING ADVANCED MASTER CONTROL FUNCTIONS, BIG POWER AND HIGH-SPEED SYNC OPTIONS TO THE TABLE. BUT WITH PRICES FROM $400 TO $1000, WHICH MODELS ARE THE BEST BUYS?

Test: RICHARD HOPKINS



WITH $400-PLUS in the flash budget, things start to get very interesting. It brings access to top-of-the-range models that include master/commander functions for fully automatic control of multiple remote flashes, and there's high-speed sync that allows shutter speeds above the normal X-sync limit to be used. These features can be found at lower prices too, including with the Yongnuo 568EX II (Best Buy in last issue's budget flashgun review), but the pricier models come with more power, faster recycling, and a spec sheet of pro-grade extras.

The key to both of these advanced features, and to auto-TTL exposure control in general, is the IGBT technology that is common to all flashguns. It stands for Insulated-Gate Bipolar Transistor, and is basically a very fast switch that can turn the flash on and off extremely rapidly in a fraction of a millisecond.

This is used for exposure control, where the flash is simply switched off when enough light has been delivered. It is also used for remote control of slave guns, when the master unit puts out a series of Morse Code-like instructions by flashing repeatedly, so fast that it looks like one short flash to the human eye. These flashes are picked up by the slaves so they know when to fire, and how much light to give. Then there's high-speed sync, when the flashgun fires a constant stream of small flash pulses at an incredible rate while the shutter completes its full exposure cycle. These pulses are so close together that they appear like continuous light as far as the exposure is concerned.

Another benefit of IGBT technology is something of a side effect from the way the flash pulse is cut short to control exposure, as it results in very brief flash durations at low power settings. At 1/8 power for example, flash durations are typically down to 1/6000sec or so, reducing further to as little as 1/40000sec at minimum output. Perfect for freezing very fast action like bursting balloons or capturing water droplets.

HOW WE DID THE TESTS

POWER: Using our standard method of firing into a Lastolite 95cm Umbrellabox and reading full-power brightness at 1.0m, this gives an accurate and reliable measure of total light output that is directly comparable between all flash units.

It's exactly the same method used for our recent review of studioflash heads (*DP* Volume 45), expressed as an f/number at ISO 100 plus a decimal – for example, f/8 +0.5 is exactly half way between f/8 and f/11. That figure would also equate to around 100Ws in studioflash terms.

RECYCLE TIME: An average of five full-power pops, using freshly-charged standard Eneloop Ni-MH batteries. Alkaline batteries are much slower, typically taking 50% longer.

FLASH DURATIONS: Flash durations quoted by manufacturers are often the industry standard 't.5 time' but compared to real shutter speeds this is notoriously inaccurate. Here they were tested with a fast-spinning target, comparing results directly against ambient light images taken at high shutter speeds. This is a very reliable method up to 1/8000sec, the camera's maximum, though flashguns can run much faster than that at low-power outputs. As a rule of thumb with



flashguns, from around 1/4 power and less, the flash duration roughly halves every time the power output is halved.

LIGHT COVERAGE: The zooming action of the flash head improves efficiency by adjusting the angle of the light coverage to match the field-of-view of the lens (set in increments relating to full-frame equivalent focal lengths). At longer settings, this narrows and concentrates the beam, effectively making the flash brighter and increasing its range. Note that manufacturers' quoted guide numbers usually refer to the flashgun's maximum focal length, thus helping to flatter performance figures.

At shorter focal lengths, all guns struggle to get really even light coverage and corners are darker. Depending on the subject, it can pass unnoticed or even enhance the image with a slight vignette effect. The upside is that producing properly even coverage would mean a significant drop in overall brightness, so it's a fair trade-off.

OTHER FEATURES: Other key performance features to look out for include colour temperature (almost always very good, close to daylight), and with top-spec guns high-speed sync (HSS, or Auto-FP sync in Nikon-speak). Where relevant, we have covered this in the reviews.

FLASH TERMINOLOGY

GUIDE NUMBER: A measure of flash brightness, that can also be used to calculate exposure when the flash is fired directly at the subject, based on the inverse square law (see below). Divide the Guide Number by distance to get the f/number – for example, GN56 (ISO 100, metres) would give a lens aperture of f/5.6 at 10m.

E-TTL & i-TTL: E-TTL is Canon's name for their auto-TTL flash system, and Nikon's is labelled i-TTL. They both work in pretty much the same way, with the same main features.

PRE-FLASH: In auto-TTL mode, a pre-flash is fired when the shutter release is pressed, just before the shutter opens, and the metering system uses this to calculate exposure. It all happens very quickly indeed, just a few milliseconds, too fast for the naked eye to separate the pre-flash from the main flash that follows straight after.

WIRELESS REMOTE FLASH: The days of long trailing sync cables are gone, as modern flash systems communicate wirelessly and fire in sync using light-code instructions (very fast Morse Code-like signals) or via radio instructions that are more reliable and have greater range.

MASTER/COMMANDER & SLAVE: For wireless remote flash, the master unit (Canon) or commander unit (Nikon) sits on the camera and transmits exposure and sync instructions to the remote slave receiver flashguns.

S1 & S2 SLAVE: S1 is a normal 'dumb-slave' feature, when the flashgun will fire in sync when it sees another flash firing. S2 mode is the same, but is programmed to ignore pre-flashes from the master unit and will only fire when it sees the main flash.

HIGH-SPEED SYNC: HSS allows high shutter speeds, above the normal X-sync ceiling of focal-plane shutters (Nikon calls it FP-sync) that is limited to 1/200sec or thereabouts. Many top-end flashguns can do this, and it's invaluable for using flash in bright daylight, though effective power is inevitably greatly reduced so is best at close range.

SECOND-CURTAIN SYNC: Normal X-sync fires the flash at the beginning of the exposure, and second-curtain sync fires it at the end. This can create a more natural-looking effect with bright moving subjects, such as the streaks of light from car headlights that would then appear behind the car rather than in front of it.

I.G.B.T: Stands for Insulated-Gate Bipolar Transistor, which is a very fast switch used to control power output in flashguns, while also delivering very short flash durations – typically down to 1/30000sec at minimum power. Conventional studioflash works completely differently in this respect.

BOUNCE FLASH: A popular technique for creating softer and more natural lighting indoors by pointing the flash at a white ceiling. The ceiling effectively becomes the new and much larger light source, bouncing soft light over a wide area. Light-toned walls can also be used.

MULTI-FLASH MODE: In multi-flash or stroboscopic mode, the flashgun will rattle off a sequence of flashes at set intervals. A good trick for showing off your golf swing!

INVERSE SQUARE LAW: One of the fundamentals of flash photography, the inverse square law says that when the distance is doubled, the brightness of the light is reduced to one quarter – a drop of two stops. Basically, flash brightness falls off much more quickly than you might think!

BUDGET FLASHGUNS: SUMMARY OF OUR HIGHLY RATED & BEST BUY MODELS

If you missed last month's review of leading budget flashguns, don't worry, here's our summary of the best models in our group test.



Gloxy GX-F990

Gloxy GX-F990 $265: The Gloxy boasts a high specification, including high-speed sync, and it offers ample power too. It's a little heavy, but it's very well made and comes with useful accessories – all for a bargain price.



Canon 270 EX II

Canon Speedlite 270EX II $220: This Canon is small, light and surprisingly powerful. Its tilting head and high-speed sync mode gives it extra versatility. At £135, it's a great buy for a pocketable second flashgun.



Sigma EF-610 Super

Sigma EF-610 DG Super $325: A high-performance flash that is available in a wide range of camera fittings, for a fair price. It boasts impressive power, but its recycling times are unfortunately slower than we'd like.



Nissin Di700

Nissin Di700 $280: Well designed, offers extensive features and boasts decent power, all for a fair price. Control is handled mostly by the camera, which is good, but less convenient, and varies from brand to brand.



Yongnuo 568EX II

Yongnuo Speedlite YN568EX II $180: The Yongnuo's specification, build quality and performance are all top-drawer. This model has a good reliability record, and the price is just incredible.

MAIN FEATURES

1) Fold-down wide-diffuser: Extends coverage with ultra-wide lenses
2) Rotating head: Tilts and swivels
3) Slave sensor: Optical slave receiver for remote firing using another flash
4) AF-assist light: Emits red beam for aiding autofocus in low light
5) Battery cover: Requires AA batteries
6) Metal foot: Hotshoe mount with locking collar for security
7) Stand: With 1/4in tripod bush underneath for mounting on stand
8) Tilt and swivel angles: Click-stopped at marked positions
9) LCD control panel: Full display of all functions and settings
10) Panel light and custom functions: Illuminates LCD, doubles as CF access
11) Mode set: E-TTL & manual control
12) Sync options: Sets high-speed sync and second-curtain sync
13) Zoom head facility: Zooms head to match focal length setting
14) Sync port: Standard 3.5mm jack sync socket (not on 430EX II)
15) Ready light: Flash ready light, doubles up as test button
16) Settings controller: Selector toggle, plus confirm button
17) Pull-out bounce card: Use for bounce-fill technique (not on 430EX II)



Nissin Di866 Mk II *$430*

The Nissin Di866 Mk II is a modest update of the original Di866 that gained early popularity as a cheaper alternative to top-spec Canon and Nikon flashguns. Improvements include metal hotshoe foot and high-speed sync.

There's full auto-TTL operation, also a remote master controller, high-speed sync, second-curtain sync, and a sub-flash (the white window) for a dash of direct fill when bouncing. The zoom head covers 24-105mm focal lengths, down to 18mm with the wide panel, and there's a pull-out bounce card too. Head movements are slightly restricted with only 90° rotation to the left, and no downward tilt. Separate sync and external power sockets, plus a USB firmware port will please keen strobist photographers. Settings are adjusted via a menu system with a colour LCD and a four-way controller, quite a novelty when first introduced, and it works very well – easy and logical.

Total light output measured f/8 +0.5, which is a decent slug of power, though less than GN60 suggests. The recycle time of four seconds at full power is a little slower than most, but a definite highlight is faster flash durations than average, with 1/700sec at full power, jumping up to 1/2600sec at half, and 1/6000sec at quarter power.



HIGHLY RATED

VERDICT

Nothing too fancy, but the Di866 Mk II is a proven workhorse with solid performance on-camera and as a wireless off-camera flash. Recycle time is not the fastest, but flash durations are notably quicker.

Street price: $430
Guide number: GN60 at 105mm (ISO 100, m)
Tested output: f/8 +0.5 max power
Coverage: 24-105mm, 18mm wide-diffuser
Recycle max power: Four seconds
High speed sync: Yes
Second-curtain sync: Yes
Flash durations (claimed): 1/300sec max power, to 1/30000sec min power
Tilt-bounce angles: 0-90° up
Swivel: 0-90° left, 0-180° right
Modes: Auto-TTL, Manual, Multi-strobe
Remote modes: Auto-TTL master, Auto-TTL slave, optical slave
AF assist beam: Yes
Pull-out bounce card: Yes
Sync port: Yes
Firmware update port: Yes
Power source: Four AA batteries
External power options: Yes
Dimensions: 182x75x58mm
Weight: 493g inc batteries (Ni-MH, 105g)
Accessories: Mini stand, soft case
Camera fittings: Canon, Nikon, Sony
Website: www.nissindigital.com

Build quality	✪✪✪✪
Features	✪✪✪✪
Performance	✪✪✪✪
Value	✪✪✪✪✪
Overall	✪✪✪✪

Canon Speedlite 430EX II *$450*

Notably smaller than anything else at this level, and lighter too, the Canon Speedlite 430EX II lacks some features of the mighty Canon 600EX-RT, but it doesn't want for anything major.

The 430EX II lacks RT radio control of course, and neither can it play the master role, but it does feature full auto-TTL, slave operation, high-speed sync and second-curtain sync. Canon has left off a few other things in what seems like a bid to penny-pinch when the similar Nikon SB-700 has them, as do other flashguns at much lower cost – features like a pull-out bounce card, and a head that rotates a full 360° plus downward tilt. The head zooms from 24-105mm, the fold-down diffuser adds coverage for a wide 14mm lens, and it locks firmly in the straight ahead and straight up positions, which is nice.

Performance is impressive, with max power hitting f/8 +0.3 – slightly higher than expected from the guide number and only 0.4 stops less than the 600EX-RT. Even better, it recycles in two seconds to make it the fastest on test. Flash durations are typical, testing at shutter-speed equivalents of 1/400sec at full power, 1/1800sec at half power, and 1/4000sec at quarter power. Thereafter, durations roughly halve with every one-stop of power reduction.



BEST BUY

VERDICT

Significantly more compact and lighter weight, the Canon Speedlite 430EX II has good power and very fast recycling. All the essentials are present, it's very well built, and the price is right.

Street price: $450
Guide number: GN43 at 105mm (ISO 100, m)
Tested output: f/8 +0.3 max power
Coverage: 24-105mm, 14mm wide-diffuser
Recycle max power: Two seconds
High speed sync: Yes
Second-curtain sync: Yes
Flash durations (claimed): Figure not provided by manufacturer
Tilt-bounce angles: 0-90° up
Swivel: 0-90° left, 0-180° right
Modes: Auto-TTL, Manual
Remote modes: Auto-TTL master and Auto-TTL slave
AF assist beam: Yes
Pull-out bounce card: No
Sync port: No
Firmware update port: No
Power source: Four AA batteries
External power options: No
Dimensions: 157x73x57mm
Weight: 424g inc batteries (Ni-MH, 105g)
Accessories: Mini stand, soft case
Camera fittings: Canon only
Website: www.canon.com.au

Build quality	✪✪✪✪✪
Features	✪✪✪✪
Performance	✪✪✪✪½
Value	✪✪✪✪✪
Overall	✪✪✪✪✪

Nikon SB-700 Speedlight *$495*

The Nikon SB-700 looks to have all the main features of the top SB-910 model, it's a bit smaller and lighter too, and costs a handy $235 less. It's less powerful of course, half a stop, but that aside the SB-700 is very well-equipped with full Auto-TTL control including commander functions. There's high-speed sync, second-curtain sync, a zoom head that runs from 24-85mm plus 12mm wide diffuser and pull-out bounce card. Nikon includes an extra sophistication here, with flash coverage that can be adjusted either for maximum range but with some darkening around the edges, or less range but no un-evenness of exposure across the frame, or the regular setting that's somewhere in-between. This is achieved by moderating the zoom head, as can be done manually with other guns, but it's a handy feature. Tilt is 90° up, 7° down, rotation a full 360° and it locks in the straight-ahead position. It comes with a nice zippered case, mini stand, colour effect filters and a diffuser cap.

Power output measured f/8 +0.4, within a few tenths of the most powerful flashguns available, with fast 2.2-second recycle time. Flash durations checked out at a modest 1/400sec on full power, rising to 1/1200sec at half and 1/3500sec at quarter power.



BEST BUY

VERDICT

The SB-700 strikes a good balance of features, performance and price. Not too big, with a versatile zoom head, decent power, fast recycle, and Nikon always screws things together properly.

Street price: $495
Guide number: GN28 at 35mm (ISO 100, m)
Tested output: f/8 +0.4 max power
Coverage: 24-85mm, 12mm wide-diffuser
Recycle max power: 2.2 seconds
High speed sync: Yes
Second-curtain sync: Yes
Flash durations (claimed): 1/1042sec max power, to 1/40000sec min power
Tilt-bounce angles: 0-90° up, 7° down
Swivel: 0-180° left, 0-180° right
Modes: Auto-TTL, Manual
Remote modes: Auto-TTL master and Auto-TTL slave
AF assist beam: Yes
Pull-out bounce card: Yes
Sync port: No
Firmware update port: No
Power source: Four AA batteries
External power options: No
Dimensions: 170x70x58mm
Weight: 461g inc batteries (Ni-MH, 105g)
Accessories: Stand, case, diffuser cap, filters
Camera fittings: Nikon only
Website: www.nikon.com.au

Build quality	★★★★★
Features	★★★★
Performance	★★★★½
Value	★★★★★
Overall	★★★★★

Metz Mecablitz 64 AF-1 *$645*

A big flashgun, and heavy too, just beating the top model Canon, Nikon and Nissin on size. Fully spec'd with all the usual high-end features such as Auto-TTL master and slave options, high-speed sync, second-curtain sync, multi strobe and optical slave.

What distinguishes the Metz Mecablitz 64 AF-1 is its touchscreen colour LCD control panel, with settings adjusted via a menu system, and also the little sub-flash that adds a bit of direct fill light when bouncing the main flash. That works well, though the touchscreen offers no obvious benefit over a normal four-way rocker switch and you're not always certain if your touch has registered correctly.

The zoom head is pretty versatile, covering focal lengths from 24-200mm with a 12mm wide-panel and pull-out bounce card. There's a full range of movements apart from rotation limited to 120° on the right, with a lock straight ahead.

The very high GN64 power output is slightly misleading as it's taken with the zoom head at 200mm, but the tested output is still equal-highest at f/8 +0.9. A recycle time of 2.2 seconds is also very impressive for this much punch. Flash durations are notably slower though, testing at 1/300sec at full power, 1/800sec at half, and 1/1700sec at quarter power.



VERDICT

In the Nikon camp, the Metz 64 AF-1 has close competition, but Canon has nothing with this power and spec at similar money. The Metz 64 AF-1 is also available in many other camera fittings – check the website.

Street price: $645
Guide number: GN64 at 200mm (ISO 100, m)
Tested output: f/8 +0.9 max power
Coverage: 24-200mm, 12mm wide-diffuser
Recycle max power: 2.2 seconds
High speed sync: Yes
Second-curtain sync: Yes
Flash durations (claimed t.5): 1/750sec max power, to 1/40000sec min power
Tilt-bounce angles: 0-90° up, 9° down
Swivel: 0-180° left, 0-120° right
Modes: Auto-TTL, Manual, multi
Remote modes: Auto-TTL master, Auto-TTL slave and optical slave
AF assist beam: Yes
Pull-out bounce card: Yes
Sync port: Yes
Firmware update port: Yes
Power source: Four AA batteries
External power options: Yes
Dimensions: 202x76x59mm
Weight: 533g inc batteries (Ni-MH, 105g)
Accessories: Mini stand, soft case
Camera fittings: Canon, Nikon, Pentax, Sony
Website: www.metz.de/en

Build quality	★★★★
Features	★★★★
Performance	★★★★
Value	★★★★
Overall	★★★★

Nikon SB-910 Speedlight *$730*

Nikon's top model, taking over from the SB-900, with the main differences being a revised control interface now similar to the SB-700, and improved thermal protection that slows the recycle time when the flash gets too hot, instead of just cutting out. It's a valuable feature when using repeated shots at high power as is often the case when bouncing or in high-speed sync mode.

The specification is very thorough, as you'd expect, with master/commander modes (using light-code, not radio), remote slave, high-speed sync and second-curtain sync. The zoom head is fully featured, covering 17-200mm plus 14mm with the wide diffuser, there's a pull-out bounce card and movements every which way from 90° up, 7° down, full 360° rotation that locks straight ahead and straight up. Excellent, and like the SB-700, it comes in a zippered case with mini stand, colour-correction filters and a Stofen-style diffuser cap.

Power output measured at f/8 +0.9, equal best with the Metz 64 AF-1. In studio flash terms, that's around 120Ws equivalent. Recycle time of 2.4 seconds at max power is pretty swift and flash durations are typical, with shutter speed equivalents of 1/400sec at full power, reducing to 1/1500sec at half, and 1/3500sec at a quarter.



HIGHLY RATED

VERDICT

A total package: fully featured, solidly made and with top performance. There's no radio controlled remote capability from Nikon yet, though that's reflected in a reasonably fair price, all things considered.

Street price: $730
Guide number: GN34 at 35mm (ISO 100, m)
Tested output: f/8 +0.9 max power
Coverage: 17-200mm, 14mm wide-diffuser
Recycle max power: 2.4 seconds
High speed sync: Yes
Second-curtain sync: Yes
Flash durations (claimed): 1/880sec max power, to 1/38500sec min power
Tilt-bounce angles: 0-90° up, 7° down
Swivel: 0-180° left, 0-180° right
Modes: Auto-TTL, Manual, multi
Remote modes: Auto-TTL master, Auto-TTL slave and optical slave
AF assist beam: Yes
Pull-out bounce card: Yes
Sync port: Yes
Firmware update port: No
Power source: Four AA batteries
External power options: Yes
Dimensions: 197x77x58mm
Weight: 522g inc batteries (Ni-MH, 105g)
Accessories: Stand, case, diffuser cap, filters
Camera fittings: Nikon only
Website: www.nikon.com.au

Build quality	✪✪✪✪✪
Features	✪✪✪✪
Performance	✪✪✪✪✪
Value	✪✪✪✪
Overall	✪✪✪✪½

Nissin MG8000 Extreme *$750*

The top-spec Nissin MG8000 Extreme has a unique and potentially invaluable feature – it's virtually immune to over-heating. The specially designed Quartz flash tube sits in a large and well-vented zoom head, and Nissin claims it will handle 200 consecutive full-power pops without batting an eyelid! That's a heck of a lot, and Nissin claims about three times more than other flashguns. After 200 flashes, the recycle time automatically doubles but it will then go on pretty much forever, with external power options available to take it there.

The only downside is the zoom head design excludes the usual pull-out bounce card and wide-angle panel (there's a clip-on diffuser instead). Otherwise, the head movements are the same as the Nissin Di866, as are most other features like the sub-flash and LCD control panel with four-way controller. Then there's the usual compliment of high-end features, including remote master and slave functions, high-speed sync, second-curtain sync, multi-strobe and so on.

Output measured a high f/8 +0.8 on full power, with a respectable recycle time of 3.2 seconds. Flash durations were on-par, with 1/400sec at full power, 1/1650sec at half, and 1/3500sec at quarter power.



VERDICT

Over-heating can be a real problem, neatly side-stepped here with clever construction by Nissin, and heavy users will happily pay the premium for what is also a powerful and very capable flashgun.

Street price: $750
Guide number: GN60 at 105mm (ISO 100, m)
Tested output: f/8 +0.8 max power
Coverage: 24-105mm, 18mm wide-diffuser
Recycle max power: 3.2 seconds
High speed sync: Yes
Second-curtain sync: Yes
Flash durations (claimed): 1/300sec max power, to 1/30000sec min power
Tilt-bounce angles: 0-90° up
Swivel: 0-90° left, 0-180° right
Modes: Auto-TTL, Manual, multi
Remote modes: Auto-TTL master, Auto-TTL slave and optical slave
AF assist beam: Yes
Pull-out bounce card: No
Sync port: Yes
Firmware update port: Yes
Power source: Four AA batteries
External power options: Yes
Dimensions: 193x79x59mm
Weight: 531g inc batteries (Ni-MH, 105g)
Accessories: Stand, case, wide-angle diffuser
Camera fittings: Canon, Nikon
Website: www.nissindigital.com

Build quality	✪✪✪✪
Features	✪✪✪✪
Performance	✪✪✪✪
Value	✪✪✪✪
Overall	✪✪✪✪

Canon 600EX-RT *$960*

The Canon Speedlite 600EX-RT was the first flashgun to include integral radio Auto-TTL control of remote flashguns. Radio Auto-TTL with add-on triggers is commonplace, and very good and surprisingly affordable it is too, but nothing beats built-in radio for convenience and reliability. There are no line-of-sight problems or misfires in bright ambient light with radio, and with the 600EX-RT there's no messing about with separate triggers and batteries or cables either. You can literally just put them up, switch on, and shoot. Fantastic. The Canon 600EX-RT also has normal light-code remote mastering.

The rest of the spec is top-drawer. High-speed sync, second-curtain sync and multi-strobo modes, a zoom head that runs from 20-200mm and down to 14mm with the fold-down wide-panel, plus a bounce card. There's 90° upwards tilt, 7° down, full 360° rotation, with locks straight up and straight ahead. If there's a feature available, you can be sure the Canon 600EX-RT has it. Build quality is very high, including weather-resistance such as the boot that surrounds the hotshoe.

Power output measured a fairly decent f/8 +0.7, with a more than respectable recycle time of 2.9 seconds. Flash durations are in line, measuring 1/400sec at full power, 1/1400sec at half, and 1/3200sec at quarter power.



HIGHLY RATED

VERDICT

There's no doubting the superb performance of the Canon 600EX-RT, with or without its brilliant radio remote control facilities. The big question is whether you can justify the $960 asking price.

Street price: $960
Guide number: GN60 at 200mm (ISO 100, m)
Tested output: f/8 +0.7 max power
Coverage: 20-200mm, 14mm wide-diffuser
Recycle max power: 2.9 seconds
High speed sync: Yes
Second-curtain sync: Yes
Flash durations (claimed): Figure not provided by manufacturer
Tilt-bounce angles: 0-90° up, 7° down
Swivel: 0-180° left, 0-180° right
Modes: Auto-TTL, Manual, multi
Remote modes: Auto-TTL master and Auto-TTL slave
AF assist beam: Yes
Pull-out bounce card: No
Sync port: Yes
Firmware update port: No
Power source: Four AA batteries
External power options: Yes
Dimensions: 194x79x60mm
Weight: 533g inc batteries (Ni-MH, 105g)
Accessories: Stand, case, filters
Camera fittings: Canon only
Website: www.canon.com.au

Build quality	✪✪✪✪✪
Features	✪✪✪✪✪
Performance	✪✪✪✪✪
Value	✪✪✪
Overall	✪✪✪✪◐



CONCLUSION

Which is the best premium flashgun? That's easy – Canon's Speedlite 600EX-RT. It has a total specification, performs brilliantly, and has great build quality, including weather-resistance. But its only real advantage over the Nikon SB-910 is radio remote control, and for that the price jumps up to a not inconsiderable $960. And the Nikon, though excellent too, is not exactly cheap either at $730. Both have to score Highly Rated though.

It's their little brothers that do best overall when taking value for money into account. The Canon 430EX II and Nikon SB-700 are substantially cheaper at $450 and $495 respectively, but don't lack for anything much in either in terms of features or performance, plus they're smaller and lighter, with faster recycle times. To be fair, the Canon 430EX II doesn't offer remote control mastering which could be a deal-breaker, but that aside, both contenders perform very well indeed and both are worthy Best Buys.

The Nissin Di866 II also deserves a Highly Rated recommendation too. Granted, it lacks a few refinements, but has plenty of power, is easy to use with the colour screen and menu system, and it offers notably faster flash durations than any other flashgun on test here. The recycle time is a little slower at full power, but at the lower settings you're most likely to use most in practice, it's much faster. There's no doubting the price though, and that is the cheapest here at a more-than-reasonable $430.



Joby UltraFit Hand Strap

Lightweight support / UltraPlate tripod mount / Arca-Swiss compatible

Test: JORDAN BUTTERS

Price: $49
Dimensions: 124x63x20mm
Weight: 58g
Mounting: ¼-20 tripod mount, shoulder lug
Contact: www.joby.com.au

THERE ARE TWO types of people – you either like camera straps or you hate them. Even those of us who are too clumsy to live life strapless rarely hang our camera around our necks, unless we're into the whole 'obvious tourist with neck ache' thing! The viable alternatives are to put up with hanging your camera strap on your shoulder, or invest in a sling-style shoulder or hand strap. The problem with the latter two is that you usually forfeit the ability to mount your camera on a tripod, as sling and hand straps screw into the tripod mounting thread. Well, Joby have introduced a rather clever product that addresses both issues.

I've been using the Joby UltraFit Hand Strap for the past couple of months, and it works incredibly well! In much the same way as any other hand strap, one end of the UltraFit loops through the camera's shoulder lug, while the other is looped through the included UltraPlate. The UltraPlate then screws into your camera's tripod thread. The kicker is that the UltraPlate is shaped to fit within an Arca-Swiss style tripod head, allowing you to switch between shooting handheld and on a tripod without removing the strap – perfect!

The strap uses what Joby term Layered-Pad Technology, which makes it lightweight, thin and comfortable – it's adjustable for size too. The UltraPlate is around 10mm thick and is nice and wide, making it easy to slot onto your tripod – the camera also balances on the plate when placed on a flat surface, thanks to its flat base. What's more, if your tripod isn't Arca-Swiss style, you can use one of the two additional ¼-20 mounting holes on the UltraPlate to screw on your own tripod plate, or use an additional shoulder strap alongside. This is a nice touch, and one that ensures that the UltraPlate will work with any tripod, although it does make the camera a bit cumbersome as you've essentially fitted two tripod plates at once.



VERDICT

An idea so simple you'll wonder why no-one else has thought of it! Works on DSLR and mirrorless cameras and is the ideal solution for those who want to use a strap and a tripod interchangeably.

Build quality	★★★★☆
Features	★★★★☆
Performance	★★★½☆
Value	★★★½☆
Overall	★★★★☆

Shutter Huggers

Available in a variety of designs / easy to use / fits most DSLR lenses

Test: CAROLINE SCHMIDT

Price: US$19.99
Contact: www.shutterhuggers.com



THOSE WHO ARE parents, or aspiring professional family photographers, will attest to the frustrations of chasing small children trying to capture a natural expression and pleasant portrait. Silly songs, animal noises, peek-a-boo – we do all sorts of antics to elicit smiles. A popular trick is to hold a favourite teddy above the camera or to have an assistant interact with them, but Shutter Huggers are designed to allow you to shoot solo and keep your hands on the camera. These small soft toys fit securely around your lens with elastic and come in a variety of animal designs: tigers, eagles, dinosaurs and monkeys etc. They're easy to fit in to the smallest of camera bags and engaging enough that they do keep a child's attention long enough to grab a shot or two. I tried the Shutter Huggers with several children and noticed its success rate was brilliant with babies, who tend to shy away once they lose your face behind a camera. But for those older than 12 months old, the toys became more of a distraction and an object of desire, which meant you either have tantrums or an animal toy in all your portraits. As a concept, it's a good idea and the products are well designed and of high quality, so well worth a try for around US$20. Use with prime lenses, however, as once attached it's awkward to zoom. There's also Shutter Hugger Minis that attach to a smartphone for those picture-perfect mobile snaps too.

VERDICT

When you lack an assistant, these creatures are an effective way to get babies looking at the camera and to give a natural smile. However, they only really work with children up to 12 months old.

Overall	★★½☆☆



WINNER!

Morning Light
by Donnay Zulberg

"My daughter and I were out very early and caught the first morning light streaming through the trees. She threw off her warm jacket and twirled around – she was so excited to be literally in the limelight. Nikon D750; 85mm lens; f/3.5; 1/250sec; ISO 250."

TAMRON facebook.com/tamron.au

Your gallery

WORKS OF ART FROM THE DIGITAL PHOTOGRAPHY COMMUNITY

WIN!

Congratulations to Donnay, who has won a Tamron B008 18-270mm Lens ($849, facebook.com/tamron.au) for the wonderful 'Morning Light' – all thanks to **Maxwell International Australia (www.maxwell.com.au)**



joby.com

JOBY



RUNNER-UP

Fingal Head Sunrise

by Jeremy Payne

"This was the first time I've ever shot here, and I was greeted with a beautiful sunrise. Nikon D800; 16-35mm Nikkor lens; 1.0sec f/18; ISO50."



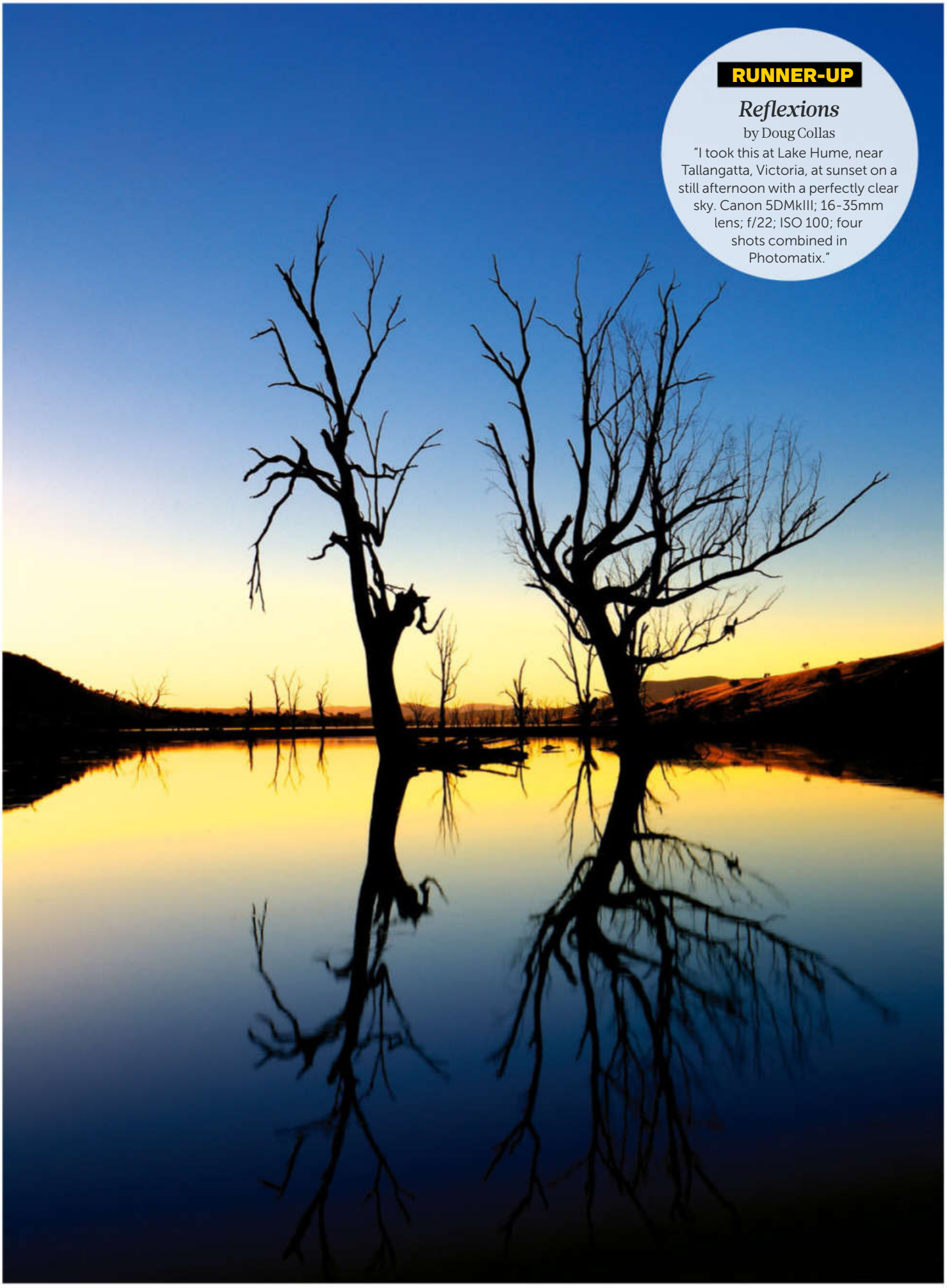
RUNNER-UP

Havana Car by Night

by Linda Hinton

"I took this on a recent holiday to Cuba. I'm an amateur and generally do family and weddings, not landscape, but Cuba is pretty impressive for any photographer. Canon 5DMkIII; 50mm lens; 1/50sec handheld; f/1.8; ISO 3200."

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RUNNER-UP

Reflexions

by Doug Collas

"I took this at Lake Hume, near Tallangatta, Victoria, at sunset on a still afternoon with a perfectly clear sky. Canon 5DMkIII; 16-35mm lens; f/22; ISO 100; four shots combined in Photomatix."

JOBY



RUNNER-UP

Blood Moon

by Ross Sayers

"I took this composite of a heron night fishing under the Narrows Bridge in Perth, standing dead still waiting for its dinner. At that moment the moon was hidden behind clouds – so I took a separate shot of it later and blended it with this image to complete the composite. Canon 5DMkIII; 16-35mm lens; 30sec; f/16; ISO 100."

TAMRON





RUNNER-UP

Happy Holi

by Howard Mitchell

"I timed a trip to Jaipur, India, for the Holika colour festival. My guide didn't like the idea of wading through the street mobs and took me instead to his relatives' home where they celebrate Holi in a family way like Christmas. This delightful little girl is his niece. Nikon D600; 35mm lens; 1/250sec; f/2.5; ISO 500."

SUBMIT YOUR IMAGES!

Think you've got what it takes to make the *Digital Photography* gallery? Whether you're a pro or an amateur, email pics to editor@dpmagazine.com.au for your chance to win. Each issue, we're giving away one Tamron B008 18-270mm Lens ($849, facebook.com/tamron.au), plus super-cool Ultrafit Sling Straps from Joby ($55 each, joby.com). You can enter as often as you like. Good luck!

WIN!

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PERFECT FOR PORTRAITS Focal length: 15mm Exposure: F/7.1 1/60 sec ISO100 © Glynn Lavender

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Tamron SP 15-30mm F2.8 Di VC USD

Introducing the world's first* F/2.8 ultra-wide-angle zoom lens with image stabilization.

VC USD eBAND Coating

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Model A012

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*For F/2.8 ultra-wide-angle zoom lens for full-frame DSLR cameras (As of November 2014. Source: Tamron)
**The Sony mount version does not include VC since Sony digital SLR bodies incorporate built-in image stabilization functionality.

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